# Science WONDER Quarterly

SPRING 1930

HUGO GERNSBACK

Editor

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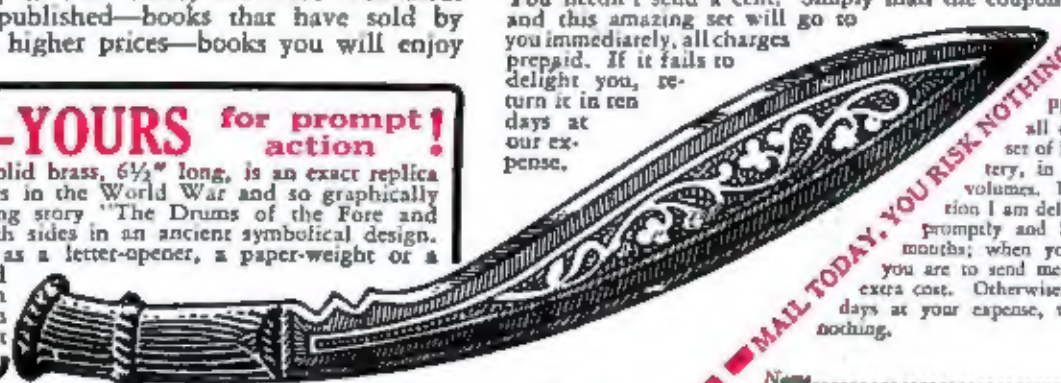

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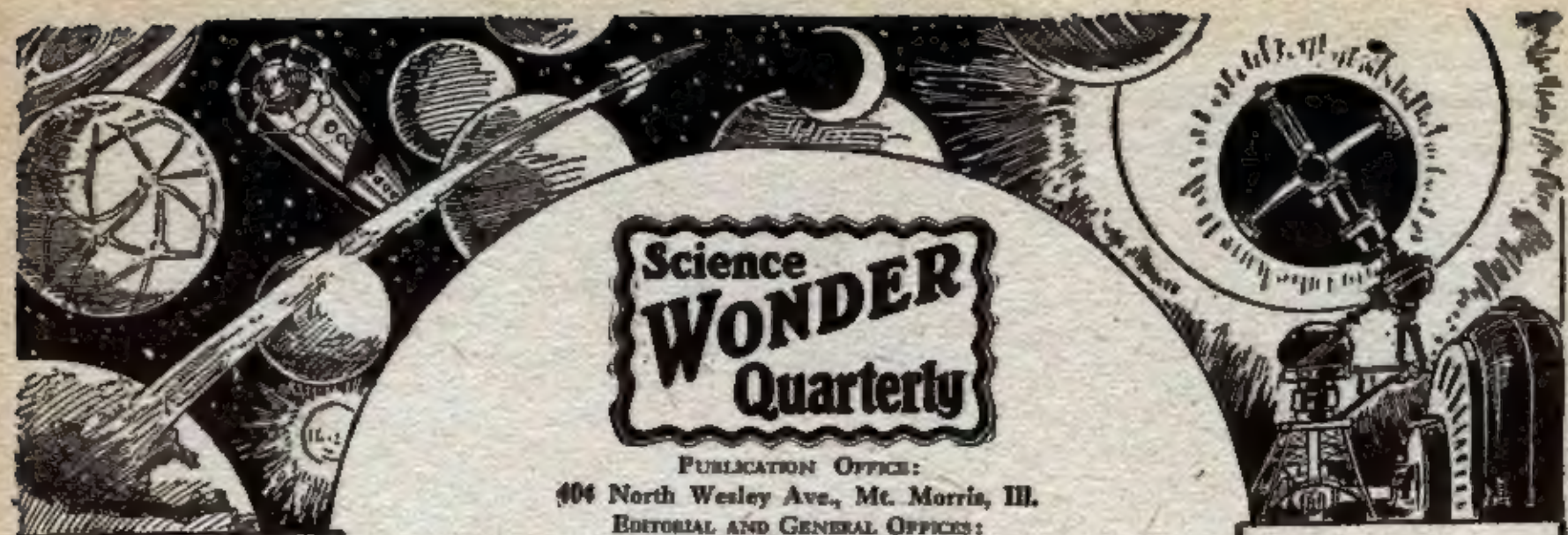


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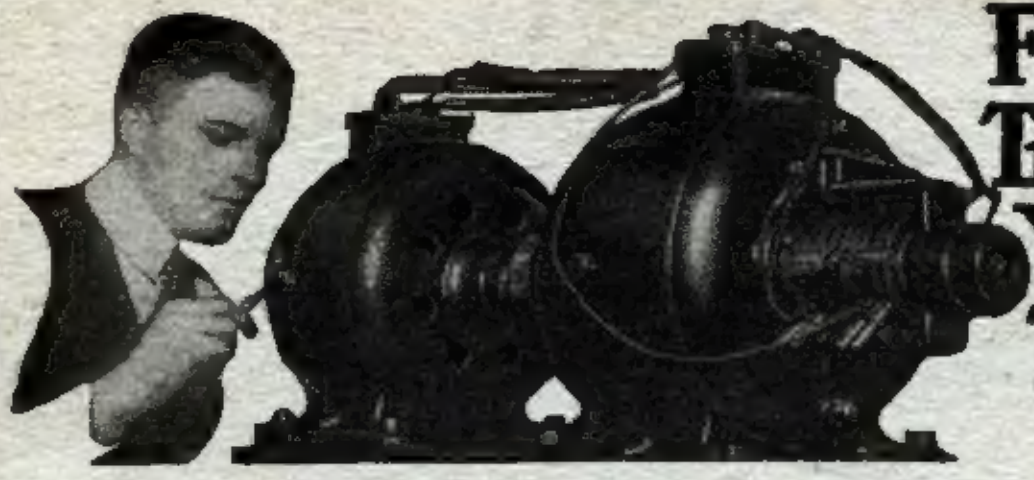

# Fellows I Have Trained Will Tell You That You, Too, Can Cash In On

# ELECTRICITY

## Not By Correspondence

"First I enrolled with a School teaching Electricity by correspondence. I tried to work out several lessons, but quit when I saw your ad. telling how you taught Electricity by actual work. I didn't have much money when I went to Coyne, but through your Employment Department I was able to work for my room and board. Three days after graduating you got me a good job with a Battery and Electric Shop, and a year later I bought a Shop of my own. I now have a $1300 car and a thriving business—all paid for."

George W. Stoneback, Illinois.

## Lands a Job at $8,000 a Year

"Before going to Coyne, I was an ordinary mechanic. Now I make $300.00 a month, and am accepting a new position the first of the year as Chief Electrician at $8,000 a year. Any man who works for me will have to be a Coyne graduate."

Stanley Surawski, Michigan.

## From $20.00 a Week to $100.00 a Week

"Before going to Coyne, I had worked in a garage for five years at $20.00 a week. I had no advanced education and didn't know a volt from an ampere. Yet I graduated in three months with a grade of 98%. Since I left Coyne, I have jumped from $20.00 to $100.00 a week, and am still going strong. I owe all my success to the practical training I got in the Coyne Shops."

Harry A. Ward, Iowa.

"I knew nothing about Electricity, before I went to Coyne," says Nolan H. McCleary. "I had no advanced education and so little money that I could never have stayed at school, if Mr. Lewis hadn't gotten me a part-time job. Yet I finished the course in twelve weeks, and the School immediately placed me in a fine electrical job. Now I am Chicago District Manager of the largest electrical concern of its kind in the world, making more money than I ever dreamed of making before I went to Coyne. I am convinced that there is but ONE RIGHT WAY to learn electricity and that

NOLAN H. McCLEARY
*Chicago District Manager, Beardsley-Wolcott Co.*

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## Says You Can Make $60.00 to $200.00 a Week

"Before going to Coyne, I made thirty cents an hour. I borrowed the money for my tuition and you got me a part time job that took care of my expenses. I graduated in twelve weeks, returned home and started doing wiring on contract. In a year's time, I had paid for my schooling, bought a car and had a nice shop of my own. In your catalog you say a fellow can make $60.00 to $200.00 a week. I have done better. In July I made $150.00 to $200.00 a week, and I have made as high as $75.00 a day."

Joseph F. Hartley, West Virginia.

## His Advice—"Go To Coyne"

"Some fellows try to learn Electricity by just working at it. Others send away for correspondence courses in it. But my advice to anyone who really wants to learn Electricity is TO GO TO COYNE. They have all the electrical equipment right in the school that you will ever see in the field. NO PICTURES OR USELESS THEORY. They show you just how to do everything you will have to do on the job."

R. M. Ayres, Louisiana.

## Nothing Compares to Practical Training

"Before going to Coyne, I took a correspondence course in Electricity, but it was too deep for me and I lost interest. Then I got your catalog, saw how you let the student actually work on electrical equipment, and decided to go to Coyne. At that time I was only making $9.00 a week. Now I make $65.00 a week straight time, have a Hudson car and own my home—where before I could hardly pay rent."

D. G. Emstrott, Michigan.

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Vol. 1 No. 3

Science WONDER Quarterly

SPRING 1930

Editorial, Advertising and General Offices, 99-89 Park Place, New York, N. Y.

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IN the Fall 1929 issue of SCIENCE WONDER QUARTERLY we announced a contest in which $500.00 in prizes was to be awarded in three installments over a period of nine months to writers of the best letters, *illustrating and proving* "What I Have Done to Spread Science Fiction."

Now with the first and second contests finished, in which $170.00 was awarded in each contest, we are happy to say that the contest is an unqualified success. The number of entries for the second contest, the prize for which is awarded with this issue, were more than double those for the first contest.

**What I Have Done to Spread Science Fiction**

**PRIZE LETTERS**

**SECOND CONTEST**

| | |
|---|---|
| **1st Prize $100** | RAYMOND A. PALMER<br>1431-38th Street,<br>Milwaukee, Wis. |
| **2nd Prize $50** | CONRAD H. RUPERT<br>113 N. Superior Street,<br>Angola, Ind. |
| **3rd Prize $ 20** | ALLAN GLASSER<br>981 Forest Ave.,<br>New York City |

Our contestants also seem to really be getting down to the serious business of spreading Science Fiction by every imaginable means. Now we are announcing the third of the three contests in which $170.00 will be awarded in the SUMMER 1930 issue of SCIENCE WONDER QUARTERLY.

We urge all those who submit letters to be sure and attach the proofs of their activities. If you have written letters to your local newspaper mentioning Science Fiction and its value, or if you have written to your school paper or your club or your friends, be sure to forward us a record of these. Naturally anything which appears in print and so reaches a great number of people is of more value than anything which is addressed to a few. As we indicated when we announced the contest, our aim is solely to spread the gospel of Science Fiction that we all believe in so fervently; and although subscriptions obtained for our magazine will be accepted as proof for the contestant, this is not by any means a subscription gathering contest.

In the summer 1930 issue of SCIENCE WONDER QUARTERLY, we will award three prizes: $100.00, first prize, $50.00, second prize and $20.00 third prize.

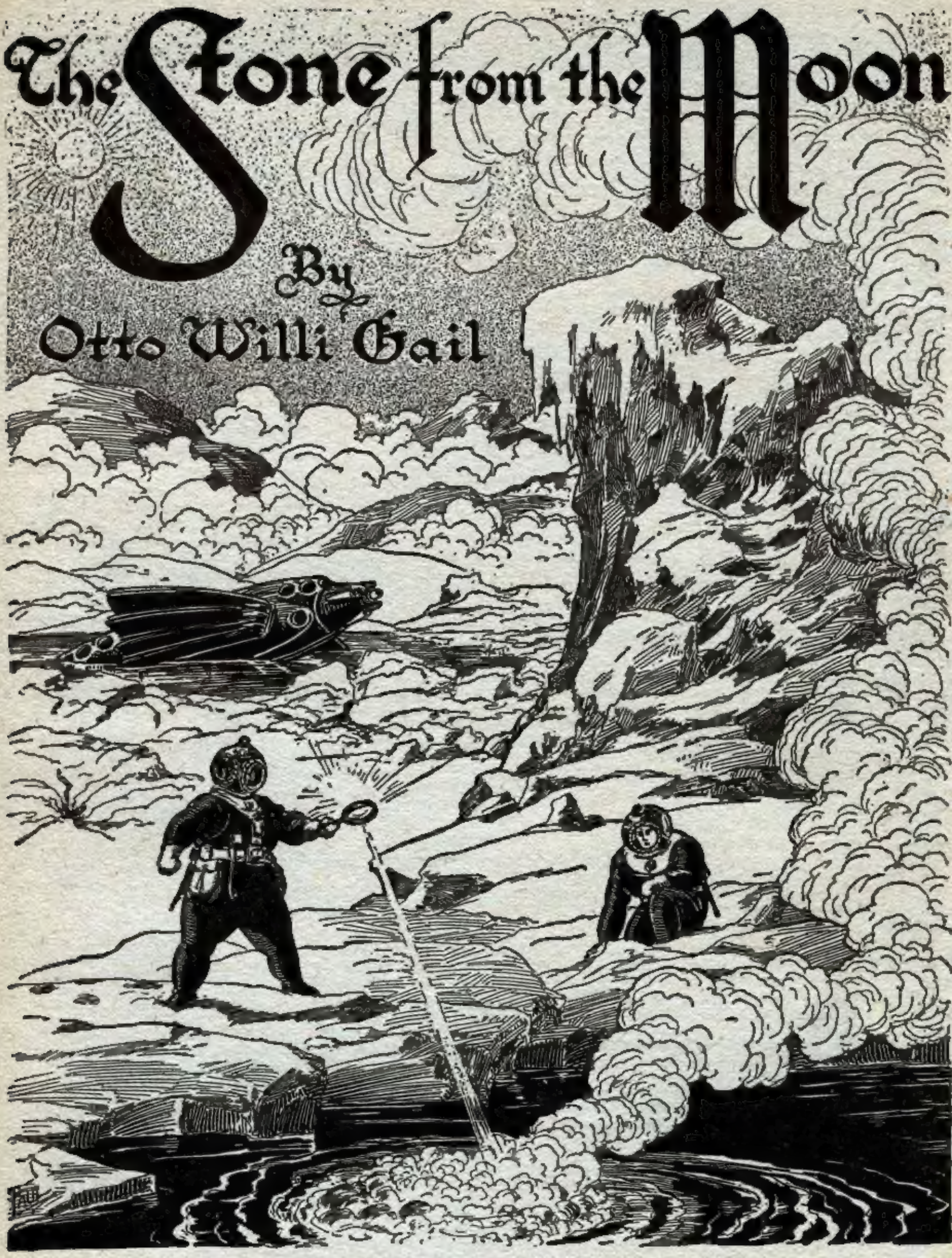
We want to comment especially at this time on the winner of the second prize in the contest now closed. Mr. Conrad H. Ruppert won the prize for his effort in starting Science Fiction Week. This we believe is one of the best ideas that have come out of the contest, and inasmuch as Science Fiction Week has been announced for March 31-April 7, 1930 our readers will have an opportunity to compete for the prizes to be awarded in the summer issue by taking an active part in Science Fiction Week. Read the announcement on page 419 and you will learn how you may aid Science Fiction and help spread the knowledge of it everywhere. You will therefore become well-known as one of the pioneers in a means of entertainment and education which is bound to sweep the world.

(*Continued on Page 422*)

**The Next Issue of SCIENCE WONDER QUARTERLY Will Be on Sale June 15, 1930**

# The Stone from the Moon

By Otto Willi Gail



(Illustration by Paul)

He held a large condensing glass toward the sun and directed the brilliant focus of light on the water. . . . In a few seconds it steamed and in a flash the whole pool was boiling.

# THE STONE FROM THE MOON

## A Sequel to "The Shot Into Infinity"

### CHAPTER I

As though impelled my some mysterious power, the slender form glides through the dense primeval forest of the lowlands of Yucatan.

With sure step the bare foot, protected only by soft sandals of untanned leather, moves from root to root. The slender brown hand bends aside the flowery garlands of lianas and the luxuriant parasitic growths. The pliant body of the dark-skinned woman slips easily through the labyrinth of creepers, ferns as high as trees, and perfumed orchids of many hues.

The rays of the sun, descending vertically at the Tropic of Cancer, find it hard to penetrate the dense leafy roof of the giant trees, countless ages old. A dull, greenish twilight lies beneath the mighty arboreal vault of nature, untouched by human hand. Moist air as in a hothouse rises from the never entirely dry ground of the lush forest, which sends forth the miasmas of fever. The motionless air is filled with an oppressive fragrance by the multitude of tropical flowers reaching from the luxuriant moss to the dome formed by the interlaced treetops.

The woman has no eyes for the splendor about her. Without looking around she glides and climbs on. She seems to know the way perfectly, for she does not pause even an instant to consider her course.

Then bright daylight appears through the less crowded treetops. Before her is still a hedge of thorny blackberries to surmount, after which the primeval forest recedes on both sides. A wide clearing flooded with dazzling sunlight comes to view, strewn with fragments of white stone, which shimmer in the intense heat.

Here are the ruins of Uxmal, the sunken city of folklore, in the primeval forest of Mexico. . . . .

There is a peculiar charm in these silent memorials of bygone civilizations—the high temple pyramids with the broad stone steps, the immense altars, and the richly sculptured columns. It is a sunken world, grown over with waving grass and gay flowers.

In this rich city artists once wielded the chisel and the brush, beauty and ambition celebrated their triumphs, and warriors and statesmen directed destinies. Children were born, youth went a-wooing, and pleasure and pain wove the eternal fabric of life—but now the glory is vanished, and the men with all their hopes and desires are dust.

Only their mighty works outlive the makers and tell us of that dim prehistoric time. These still defy the winds of the ages. But the hour will come for them also, when they will again crumble into the dust of which they are made.

The altars are split asunder. Gigantic roots penetrate the walls and force out the blocks. Mighty trees of the primeval forest encircle the columns and lift the heavy masses from their pedestals with an irresistible force. Creepers embrace the architraves, send them crashing down from the cornices, and hold them fast to the ground with strong arms that clutch like an octopus.

Cyclopes seem to have piled up the rough blocks of stone. Evaporating water, burrowing lizards, and creeping plants are destroying the massive structures which seemed built for all eternity. . . . .

With heaving breast the slender woman pauses a moment at the edge of the wood to listen. Nothing stirs. There is deep silence in the ruins. Only the croaking and whistling of monkeys and parrots playing in the treetops breaks the deathly stillness of the city of ruins.

The brown figure starts. Was not that the sound of a distant call, echoing in the woods?

Glancing obliquely downward, she bends forward, holding her breath to listen. . . It must have been some mistake, perhaps the unusually loud blow of a woodpecker. No strange sound comes through the breath of the forest, blended of a hundred murmurs.

Quickly she springs up, speeds over the stones, slips silently between the walls, a dark shadow at midday, like a ghost that cannot find repose in a thousand-year old grave.

OTTO WILLI GAIL

**We of the modern scientific age have a tendency to look with scorn upon the legends and folk-lore that are part of the literature of the various nations; we look upon them merely as part of local fairy tales without much basis of fact. But those investigators of the folk-lore of nations, especially archaeologists who have penetrated the ruins of the Mayas of Mexico, the ancient Egyptians, and others, have become convinced that many of these apparently fantastic tales have their bases in solid fact.**

**One of the most perplexing problems presented to archaeologists has been the marked similarity in the inscriptions, the literature, and the civilization of the Mayas of Mexico and the Egyptians. Separated by 3,000 miles of water, these people seem to have a common origin. And to make the mystery more complete, the water in between them—the great Atlantic—is believed by many to have been the location of that mysterious Atlantis which many stories tell us was the seat, thousands of years ago, of a great civilization. Archaeologists also are unable to explain the evidence of a past splendor of civilization among the now down-trodden and decadent Mayan Indian. But there is a story that many thousands of years ago Quetzalcoatl, a white god, descended from the skies to teach the Mayan Indians many of the wonderful things of science, and then, mysteriously, he disappeared. Certainly it is not an impossible assumption that some time in the dim remote past a visitor from another planet may have descended to teach these Indians many strange things. The possibilities in this theme are infinite and in this remarkable interplanetarian story, Mr. Gail uses the available material in a most convincing manner and constructs a powerful and yet very charming story.**

At a hedge encircling the foot of a high step-pyramid, she stops. Cautiously she parts the branches, mindful not to break a twig, which might betray the well guarded spot to intrusive eyes. And suddenly the woman has vanished, as though swallowed up by the earth—as though the ghost had returned to the grave. She is gone!

With a gentle rustle the bushes close. Nothing disturbs the peace of the enchanted city in this primeval forest.

## CHAPTER II

### Stones and Dreams

"WILL you take hold, you damned scoundrels?" A hearty curse followed these rough words, and then the round face of the speaker shone in friendly benevolence.

Five powerful men were leaning so hard on the crowbar that the iron bent. But the immense stone did not budge.

"Never mind, Patson!" A clear, fresh voice sounded above the panting of the men. "We can't get it that way!"

Patson looked up with a snort. Sweat was dripping from his massive forehead, now glistening with moisture. "It's a shame, Mr. Burns! With a couple of sturdy Irish lads we could heave that block up to the moon, if necessary. But these lazy Indians haven't any muscles in their arms. What they can't carry on their heads stays put. These chaps are limp and lazy, so that——"

"Be careful, Pat!" whispered Burns to his angry comrade. "Even if it's a blessing that your chubby angel face doesn't match your moods, you can never tell how much these people know of our language."

Patson grunted and again turned to the stubborn block. The four laborers stood around in dull indifference and stared stupidly at the crowbar with their deep-set black eyes. They were ragged, dark brown figures, with brutish faces almost unrecognizable from dirt, with very prominent cheek bones and wide low foreheads.

"The thing to do," said Sir William Burns, "is to have the earth dug away all around the block. It seems to have sunk pretty deep into the soft ground."

Pat scratched his head. "I guess that'll be the best way, sir, but it'll be the longest."

"Well! Just take care when you turn it over that the inscriptions don't get scratched. Of course the block had to fall with the inscription side down, worse luck!"

The archaeologist walked slowly around the immense stone and carefully measured it. "The dimensions agree exactly. This block must be the missing central piece of the cornice of King Koh's altar."

Pat leaned carelessly on his crowbar. "I guess good Queen Moh never dreamed chaps like these gallows-birds would some day be fingering the altar of her murdered brother and royal consort!"

"How long will it take you to get the stone free?"

"At least an hour, I should say, sir."

Burns looked at his watch. "Then I'll take a look at the temple at the southeast corner in the meantime. It seems to be an exact copy of the step-pyramid of Cholula." He turned to go. "One more thing, Pat. If I'm delayed, just take an impression of the inscription while you're waiting. Good-bye."

The slender, youthful figure of the scientist vanished at once among the confused heaps of ancient ruins.

Slowly, pacing the distances, Sir William Burns strode around the steep pyramid.

"Thirty meters on a side at the base," he murmured at the second corner. He wrote down the number and went on. At the next corner he stopped in surprise. The road was blocked by a high wall overgrown with moss, which apparently enclosed a temple court adjoining the main structure. Thick and impenetrable cactus growth made it impossible to follow the wall.

He drew back a short distance and gazed at the vast structure, the five stories of which were in terrace formation, each successive one being smaller than the one below. In the lowest story he could see no opening by which he could reach the interior. The numerous windows of the upper stories could be reached only by way of the rotten ladders leading from the first platform.

At the north side the shrubbery surrounding the foot of the pyramid was thicker and formed a sort of network which would probably support a man. It was so high that if he stood on it he might perhaps be able to grasp the edge of the terrace and climb up to it. With quick decision Burns began climbing the slender, swaying branches.

Swinging in the insecure network of wild sycamores and creepers, he extended his arm. He was within a few inches of the projecting cornice, when the twigs gave way. He could get no adequate hold on the rough stones. For a moment he kept his balance high up in the air, then came crashing down, tearing his hands on thorns and jagged edges of stones and striking the ground violently.

For a while he lay as though stunned. Then consciousness returned. He looked about in confusion. He was wedged in between the base of the wall and the thick hedge which adjoined it, and every movement entangled him still more in the maze of thorns and tore his clothing to shreds.

He bent down and cautiously crawled a little way in the narrow space between the wall and the hedge, seeking eagerly for a more open space, where he might cut his way out with his pocket-knife. In passing his hand along the wall at his right, he suddenly found a hole! There was a low opening in the wall, large enough to admit a man!

Without hesitation he crept into the dark hole. He found himself in a damp passage-way, just high enough to allow him to walk in a stooping position. He carefully groped his way forward by feeling of the side walls. The slippery ground made a sudden descent, then ran level for about twenty meters, and again descended steeply to the opening. On looking up Burns saw a gleam of light before him, revealing the exit.

"Good Heavens!" he exclaimed, as he emerged into the light of day. He stood rooted to the spot, his eyes wide with wonder as he gazed fixedly at the magic picture before him.

### The Tree of Life

IN the centre of the almost empty court stood an immense evergreen oak—in itself a rarity in these hot lowlands. The strange silhouette of the age-old gnarled tree contrasted sharply with the bright stone buildings standing about it. Just below the thick, rounded top two great stumps of branches stood out at the same height, like mighty arms which sought to support the leafy roof. It was a natural cross! No fresh growth had budded on the dried-up cross-bar which was shaded by the thick tree-top.

"The tree of life!" whispered Burns in sudden uneasiness. "The cross of the Toltecs!"

At the foot of the oak lay a woman. Half kneeling, she was clasping with both arms the weather-beaten trunk. Her eyes were turned aside, as though she listened to spirit voices from the depths. She lay motionless, with parted lips, a figure as gracefully slender as a gazelle. The sunbeams cast a bright bluish gleam on her long black hair, making her bare shoulders shine like bronze, and caressing the slender hands and tiny feet which peeped from beneath the folds of her garment.

Burns stood breathless, his eyes devouring the beautiful brown woman at the foot of the tree of life. She seemed to him a mere phantom, the product of his fevered imagination, a fairy dream, which would vanish if he moved.

"Moh, the fabulous brown Queen Moh, has arisen and returned to her native land!"

Had he merely thought it or had he spoken aloud? The woman started and raised her splendid head to listen. Almost at the same moment a short, sharp cry rang out over the ruins and died away after echoing across the brilliant sunlit court. The brown woman had perceived the intruder. She sprang up and waited like a cat, ready to leap. There was fire in her great black eyes.

Burns walked slowly forward, while the Indian woman drew back.

"Has beautiful Queen Moh returned from the distant land of the Nile?" he said slowly, as though under a charm. He spoke the language of the Maya Indians of Yucatan.

"Queen Moh lies at the bottom of the great ocean!"

What a resonance there was in this splendid voice from the past! There was a scale of tones in every word, cooing like the love-notes of the wild doves.

An irresistible desire to hear more of this voice impelled the Englishman to speak further. "Then the stones must lie!" he said.

"What do the stones tell you of the Queen of the Mayas?"

The ringing words, the proud and yet pliant and feline attitude of the speaker confused and excited Burns. This Indian woman produced an unaccountable effect on him. He replied as though in a dream:

"The stones in the land of the red children of Zeos tell the same story as the stones in the realm of Ammon-Ra: the hapless Queen Moh, grieving over the murder of her brother and husband, King Koh, fled from the peninsula of Yucatan across the wide sea and after a long journey reached the fertile land of the Nile. There she erected to the memory of her lamented consort a splendid monument exactly like the tomb of Chichen-Itza. Both are surmounted by stone leopards with human faces."

"Do the dead stones tell you all this?"

"They tell even more! Queen Moh brought to the nations far over the sea the art of Chichen-Itza and Uxmal. Therefore she was highly honored in Egypt, and was later even adored as the goddess Isis."

The girl shook her head. "You are mistaken. Queen Moh sailed out over the sea to seek the land of Mu, which lay far to the east, and from which formerly the white savior had come to us. She did not find it, for the beautiful land of Mu had already been engulfed by the waves. Good Queen Moh sank with her ships into the depths of the ocean. She never reached the land of the whites."

The assurance with which the Indian girl spoke embarrassed the scientist. Strange to say, he was unable to regard her story as merely a legend. He felt that the conviction of this beautiful creature must be well founded. But how?

"How does the lovely flower of Uxmal know all this?"

"Stones lie—dreams alone are true!" replied the girl, reflectively.

"Then you have dreamed of Queen Moh?" asked Burns in amazement.

"I—I don't know. My mother tells me much, day by day."

"Where does your mother live?"

"In the fields of Zeos. Her body has long been resting in the earth."

"And still she speaks to you?" The scientist drew back a step in astonishment.

"She often speaks to me. I don't hear her words, but I understand what she says to me. I have forgotten much of it. Many times it awakes again in my soul and then vanishes anew. My mother's words come and go—I do not know."

"Didn't she also tell you of the beautiful and fertile land of Mu, which the poor queen sought and did not find?"

"The land of Mu?" The Indian woman hesitated, as though searching in her mind. "From the land of Mu came Quetzalcoatl, the white savior, to the Mayas and Toltecs, when there was still eternal springtime, and no rainy season and dry season divided the year. His face was white, and from his cheeks flowed a long yellow beard. On his brow shone the sacred sign of life. He was as noble as the sun, and he taught the red children of Zeos to build stone temples and houses. But the frightful war-god Huitzilopochtli hated him and aroused the mountain tribes against him. The white savior had no love for battle, and left the land of the Mayas. But before he returned to his own land of Mu, he performed a miracle. With a throw of his hand he cast a great dart into an ancient oak, in such way that its end stood out on both sides of the trunk. The two ends of the dart at once swelled out and became as thick as the trunk itself. Thus originated the sacred sign of the cross, which came from the land of Mu."

"And the land of Mu itself?"

"Of the land of Mu I know nothing. One day, when the dart in the tree of life begins to sprout, the white savior will return again, and will bring peace to all nations. Then, too, the land of Mu shall rise again from the bottom of the sea."

### Sir William Is Perplexed

THE scientist looked thoughtfully at the thousand-year old tree, which bore in its trunk the dart of Quetzalcoatl, in the form of the sacred sign of the cross. This oak might of course have owed its unusual shape to accident and the imagination of the simple people might have woven the touching story about it. A tree from dim primitive times, from the time of Quetzalcoatl, could not possibly exist anywhere on earth. And yet—the Indian girl's story agreed in many respects with his basic investigation of inscriptions.

Could it really be mere chance that almost all civilized nations on earth know and honor the cross? The tree of life of the Mayas, the cross of Christ, the Nile-key of the Pharaohs, the hieroglyph of life, the holy sign of the Brahmins—could all these have resulted from merely playful fancy? And if these multiform signs, all of which have in common the basic figure of the cross, pointed to one and the same source, what was this source?

Was it Quetzalcoatl, the emissary of the fabulous land of Mu, swallowed up by the ocean?

Burns kept hitting again and again upon the same thought, however little it could be proved on the basis of concrete discovery. But what of those words: "Stones lie, dreams alone are true?"

"Who are you, strange maid of the primeval forest?" he asked, with unconcealed astonishment in his eyes.

"My mother called me Tuxtla."*

There was a soft sound to the word "Tuxtla", as it came from the woman's lips.

"And who is your father?"

"He was a white man, like yourself, sir! I am a Ladina."

She was a mestiza then, the daughter of a white Mexican and a native woman. Burns had suspected it. The well-developed figure and the keen mind of Tuxtla suggested a blending of races.

"Where do you live, Tuxtla, and what are you doing here in the ruins of Uxmal?"

"I cannot tell you that. Ask no more questions, sir, and withdraw from the place of the sacred tree!"

This command, expressed in a tone of entreaty, allowed no contradiction. But, Burns could not refrain from asking one more question.

"Just tell me, Tuxtla, is there in the neighborhood a hacienda in which I and my five men can find shelter for a few days?"

"Are you one of those Englishmen who are stirring up the graves of Uxmal?" A harsh vertical furrow appeared on Tuxtla's beautiful brow.

"I am Sir William Burns—from the Archaeological Institute in London!" he added. Then he suddenly felt the ridiculousness of a formal introduction to this mestiza.

"Go back the way you came! At the edge of the forest you will find a game-run, which will take you through the woods to an open grove of sycamores. Go half a league to the south from there, and you will see shining in the distance the white house of Don Pedro de la Cosa."

"Thank you, Tuxtla, thank you! But—when and where shall I see you again?"

"Do not seek me, sir, and then you will find me! Now go!"

There was a strange and almost mockingly cruel smile on the intoxicatingly beautiful face. An imperative gesture bade the Englishman depart. And he obeyed.

At the opening of the passage he turned again. The mighty tree of life stood silent. The thick shadow of a high wall fell across the trunk, which stretched out the stumps of its branches menacingly, as though the cross were waiting the patient Redeemer.

A sudden uneasiness came over the scientist. "Tuxtla!" he cried in a low, anxious voice.

Nothing stired. The mestiza had vanished without leaving a trace.

## CHAPTER III

### The House of de la Cosa

THE long shadows of evening lay on the terrace of the solitary white house. The glowing heat of the day had given place to mild winds which were bringing soft, perfumed air from the forest.

The three men were comfortably stretched out in easy chairs, pleasantly blowing rings of smoke from their black Havana cigars. The dinner table had been cleared. An elderly shrunken woman who appeared to be German was passing around cold lemonade, sugar-cane liquor, and the inevitable *pulque*. Afterward she uttered a timid "Goodnight, gentlemen," curtsied, and withdrew.

"See, gentlemen," said the tall sinewy Mexican, whose raw silk riding suit shone in the twilight, "as far as you can look over the plantations there is almost nothing but agaves. The last harvest was meager. The price of raw sisal went up very high and spurred people on to grow agaves. Now everyone is relying on them."

He held his cigar as high as his eyes—with his well-trained little finger standing far out to the side—and examined the burning end thoughtfully.

"I don't grow much myself," he went on evenly. "I buy the crops of the small rancheros and the Mayas. Naturally these people cannot establish markets for themselves. They don't need to. For centuries the export has been taken care of by the house of de la Cosa. My agents are in every seaport in the world; and in every place where sisal and dyewood are handled the name of de la Cosa stands first."

Sir William Burns was silent. He did not know what to say, and the conversation would have come to a halt, if the ever-ready Patson had not taken a hand.

The conversation of the egotistical merchant was intolerable to Burns. Politeness demanded that he should take part in it. But for hours Don Pedro had been talking of agaves, tobacco, sago, coffee, sugar-cane, and cotton. It bored the archaeologist to have to listen to his bragging and pretend an interest in it.

The magically sweet summer evening invited dreams—dreams of old stories and tales which are connected with ruins, and which on moonlight nights reveal themselves to sensitive hearts. On such night the stones speak. The rulers and priests arise from their graves and tell of war and victory, of guilt and atonement. The cares and desires of the present shrink to nothing before the mighty voice of eternity.

Why had he given up his old stopping-place in the abandoned Maya hut? It had offered less of comfort than this hacienda of Don Pedro, which was actually luxurious according to local standards. But there he could have worked undisturbed and devoted himself to his thoughts. And here? Since the day before, Burns and Patson had been guests at the house of de la Cosa, and they had not had a single free hour. The perfect Spanish-Mexican politeness bade the host devote himself to his guests, surround them with attentions—and rob them completely of their freedom.

Burns kept deciding to break away and flee to the solitude of the ruined city. But deciding was as far as he got. There was a power which held him here—the words of Tuxtla, who had directed him hither: "Do not seek me, sir, and then you will find me!"

Who was this beautiful woman at the tree of life? Was she only a dream at bright midday? An inscription which had taken bodily form? A phantom?

His whole being was affected by this experience. The image of Tuxtla was indelibly impressed on his mind.

He had not ventured to question Don Pedro about Tuxtla. What could the answer be? An astonished smile—a sideways glance from lowered lids at the English peer who was interested in a mestiza—a polite shrug of the shoulders—silence—and then more talk of agaves, sugar-cane, Campeche wood. . . . .

Burns waited for a pause in Don Pedro's long-

* Pronounced *Tuch-tla*.

winded remarks and then arose. The Mexican seemed to guess the purpose of his guest. "May I propose a short walk in the garden?" he said with an engaging smile.

Without waiting for an answer, he clapped his hands. Black Mingo came running up.

"Cloaks and lanterns!" The order sounded like a gust of wind and sent the servant speeding back again immediately.

Burns was incensed. "Thank you very much for your attention!" he said with suppressed wrath. "I should like very much to enjoy a bit of the evening in the open. But I will under no circumstances bother you, Don Pedro. I can find my way all right alone."

### Of the Señorita

THE haciendero bowed. "But, gentlemen, it is a pleasure for me to be able to show you the most beautiful spots of the hacienda by moonlight. I am entirely at your disposal."

Further resistance would have been a deadly insult. Unwillingly Burns let Mingo put on him the customary carbonaro cloak of the country. Japanese lanterns, carried by servants, swayed before the gentlemen like dancing fireflies.

The neatly hedged walks wound in arabesques through the rolling lawns, the rustling mimosas and the palm groves. Here and there arched wooden bridges crossed little artificial ponds and brooks, which glittered in the moonlight. The hoarse croaking of the bullfrogs, suggesting the monstrous splashing of rain, served but to emphasize the silence of the night. Don Pedro relieved his guests of the necessity of conversing.

They had not gone far when they heard the pattering of bare feet on the pebbly path. A breathless voice called behind them:

"Massa! Massa Don Pedro!"

It was Mingo, who came up panting. His long arms waved in the air like a wind-blown scarecrow.

Don Pedro stopped with a curse. "You dare to disturb my guests? You black brat of a mangy dog!"

Mingo seemed accustomed to such titles. "Pardon me, Massa," he whimpered in his negro Spanish, timidly, "the Señorita. . . ."

"Be still, you beast!" Don Pedro raised his hand as if to strike. "I don't wish to hear anything. March back to the house!"

Mingo sneaked away a few paces.

The wrath of the Mexican was incomprehensible to Burns. "A spineless race, these negroes," he thought. "They cringe like whipped dogs before any whim, and then lick the hand that beats them!"

He came near missing the fact that Don Pedro turned to him and said in a tone of forced politeness: "Pardon this interruption, Sir William! These people are badly brought up and get too few whippings."

Mingo stood trembling a short distance away.

"Don't you suppose, Don Pedro," answered the archaeologist, "that it would be simpler to receive the servant's message and hear what the trouble is? It may be some important business affair. Mingo seems to be doing only his duty."

The words had a colder sound than Burns had intended. They sounded like a reproof. The black man looked at the speaker in amazement.

"There is nothing in the world more important to me at this moment than the contentment of my guests!" The haciendero bowed politely and took a few steps forward, as though inviting them to continue their walk.

"Well, sir!" said Burns calmly. "You will increase our contentment, if you do not burden us with the responsibility of having in some way influenced your domestic affairs." With quick resolution he took his assistant by the arm and walked on rapidly. The darkness hid the surprised and almost hostile look which Don Pedro sent after his guests.

The Englishmen walked ahead quickly, to get out of hearing as soon as possible. Resounding blows and pitiful crying could be heard among the trees, proving that the haciendero was airing his displeasure.

"Did you hear, Sir William?" began Patson softly. He convinced himself that no one was following them, and then went on: "Mingo was speaking of the Señorita."

Burns did not reply. He was vexed, though he told himself that all this did not concern him.

"What kind of Señorita is it, of whom Mingo was speaking?" Patson commenced again, after a while. "It's certainly remarkable that we haven't been introduced to the lady of the house."

"Up to the present I haven't observed that there was any lady living in the hacienda except Mrs. Stulp, this German housekeeper. Perhaps it's the custom here to keep the ladies hidden from the guests."

"Well!" remarked Patson, thoughtfully. "It seems to me as though Don Pedro wanted to keep us from hearing the servant's message. There must have been more reason for that than simply custom."

"Don't forget that custom counts here more than religion! After all, what business is it of ours?"

"I don't know. It seems to me as though. . . ." The Irishman stopped suddenly. A shadow appeared.

"Who's there?" cried Burns.

"It's just stupid bad Mingo!" said the oily voice of the negro. "Can Mingo come closer, massa?"

"Come here, Mingo! What's the matter?" Burns went a few steps toward the servant.

"Oh, Massa English is good. Massa had kind words for poor Mingo." He turned his body like a dog wagging its tail.

"Never mind that, Mingo! Have you a message for us?" asked Burns, shortly.

"Massa Don Pedro begs a thousand pardons. An unexpected event has called him back to the house. Mingo is to see what Massa English wants and. . . ."

"What else?"

With hesitation Mingo finished his sentence: "And say that Mingo got five blows from a cane."

Burns was disgusted.

"What's the matter with the Señorita?" put in Patson. "An accident?"

"Oh, Señorita Isabella is ill, very ill. Señora Estulp got scared an dsent Mingo to Massa Don Pedro. But Mingo must not speak of the Señorita. Massa Don Pedro does not wish it." He humbly folded his arms.

Patson whistled. "Is there a doctor here?" asked Burns.

"Massa never got a doctor from Ticul when the Señorita had fits."

"Then Señorita Isabella is often ill?"

"Massa English won't tell on Mingo? If Massa Don Pedro learns that Mingo has told about Señorita Isabella, poor Mingo will get ten times ten blows." He rubbed his back with both hands, as though already feeling the fresh stripes.

"You may be sure that we will keep still, Mingo!" said Patson, assuringly.

### A Warning

MINGO came closer to the Englishmen and whispered shyly, holding his hand beside his mouth: "Señorita Isabella often has an evil spirit. To-day things are very bad. Her eyes are turned up, and the spirit speaks from her mouth many words which Mingo cannot understand."

He put his hand to his cheek and rolled his eyes frightfully, to give pictorial emphasis to his story.

Burns was troubled at spying thus on his host. It seemed to him unworthy to find out thus the secrets of the hacienda de la Cosa. He prevented further questions by the inquisitive Patson by saying to Mingo:

"Now go, Mingo! Inform your master that we are well and that we wish him a pleasant evening."

The negro ran away. But he soon stopped and came back slowly and hesitantly. "Is Massa English angry if Mingo says something more?"

Before Burns could make an unwilling reply, Mingo went on quickly: "Massa English is digging over there in the stones of Uxmal. Mingo must warn Massa." The negro's voice became impressive in its well-meant anxiety. "A very, very evil spirit lives in Xlapakh. It will enter Massa English and make good Massa ill—oh, as ill as the Señorita!"

* * * * *

In the hacienda everyone was still sound asleep when Burns set out the next morning with his little group of men. In order to be able to get to work again, freed from interruption, he had left a note for Don Pedro, telling him that he would spend the day in the ruins and would return in the evening.

The morning dew on the grass was shining in the oblique rays of the sun, which was just coming above the horizon. The harsh chirping of the crickets blended with the deep buzzing of the bees and the shrill singing of the mosquitos to make the cheerful morning-song of the rolling meadows. The turf had a penetrating earthy smell.

Here and there the first workers in the fields might be seen. They leisurely plodded along through the plantations and glanced from under their broad-brimmed pointed hats at the sun, as though wishing to convince themselves that another working day had actually arrived. They were weather-beaten chaps of all colors—many broad-headed Mayas, a few Haiti negroes, and some with unmistakably Mongolian features. Mostly, however, they were blends of all shades—mestizos, mulattos, zambos, creoles, and so on—types of such involved ancestry that the cleverest ethnologist could scarcely have classified them.

The edge of the primeval forest, which hid the ruined city, lay black in the north. Patson interrupted his chewing on the cold breakfast to ask:

"What shall we undertake to-day?"

"First, the step-pyramid, of course!" replied Burns quickly, breaking off a long spear of grass to brush away the flies. "I found a temple court there which promises all sorts of interesting things."

The archaeologist's ill-humor of the previous evening had disappeared. He watched the dawning day with the joy of anticipated work.

"Yes, you spoke of the tree of life of the Toltecs!"

"You will be amazed, Pat! It is no symbolic stone representation. No, it is the living oak of Quetzalcoatl, bearing his thickened dart in the trunk."

"Strange!" replied Patson thoughtfully. "How old do you suppose the oak is?"

"Certainly less old than the temple. Probably later generations of priests planted the tree and kept it hedged in and cared for it and cut it, until it took on the form of the sacred sign and could be shown to the people as the wonderful tree of Quetzalcoatl. These Toltecs must have had sly heads and a determined will, and their civilization was certainly not inferior to that of the Pharaohs. It is too bad that so few inscriptions and buildings remain."

"For that we may thank the glorious predecessors of our famous Don Pedro. Why, he claims that he is a descendant of that Juan de la Cosa who landed on Watling's Island with Columbus four centuries ago." Patson took off his hat and wiped the sweat-band with his handkerchief.

"That may be so! But the insistence with which he stresses his Caucasian descent and his pride in his white skin are actually suspicious. You know, Pat, how in this land of blended races people defend their Castilian blood—the more violently, the less they have of it. That the stock of de la Cosa was at one time invigorated with Indian blood is proved by the bluish lips of our charming host. However that may be, he is a worthy representative of his distinguished forerunners. Even if Columbus's discovery was incontestably an advance in civilization, what the civilized Spaniards and Portuguese took upon themselves to do in the new world was the worst barbarism.

"In the hearts of the peaceful Mayas and Toltecs there remained unquenched the touching hope for the return of the white savior, Quetzalcoatl, the bright son of the gods, who should make them noble men and women. What was more natural for these red children of nature than to take the Spanish conquistadors for the emissaries of Quetzalcoatl and to throw themselves to the ground in shy reverence of the white strangers?"

Burns stood still in his eagerness. "Doubtless no nation ever had so cruel a disappointment! I do not know which was more terrible—the Spanish and Portuguese adventurers, greedy for gold, who in bestial cruelty and tricky cunning plundered the Maya realm with fire and sword—or the fanatics of civilization. For the latter saw in the heathen stone crosses, which greeted them from all the hills, a deception of the devil to mock Christendom, and in their narrow-mindedness utterly wiped out all that they could not comprehend!"

### A Reappearance

BURNS leaned against a mighty white-barked baobab and waited for the red laborers, who were slowly trotting along. His glance went back to the white building of the hacienda, from the chimneys of which fine columns of smoke rose and wavered in the air. The buildings were surrounded by an impenetrable cactus hedge instead of a fence. A lively mass was pressing through the open gate. Coming out with their mule-trains and driving the little long-eared beasts ahead with cries audible far away were the mounted peons.

A single rider broke away from the crowd and quickly came nearer. The yellow mare sped over the fields at such speed that the dark mane stood straight out. The rider sat firmly and surely in the gently swaying saddle, bending forward and stroking the neck of the splendid animal. The horse swept along, galloped by, and went on with its nose close to the ground which was shaken by its hoof-beats.

"Hats off!" cried Patson enthusiastically. "That is what I call speed! Did you see, sir? It was a girl! Probably no one else than the mysterious Señorita!" He stepped beside Burns and gazed entranced after

the slender rider. "But she must have recovered quickly. Yesterday she was possessed by an evil spirit, and very early this morning she is on horseback and apparently completely recovered!"

Burns did not reply. With trembling hand he grasped the white tree-trunk.

"Quite a girl, isn't she?" said Patson with a grin. But when he looked into his chief's face, he started back in amazement.

"But, Sir William, what is the matter with you? You look as pale as the mummy of Tutankhamen! Are you ill?"

Burn's fingers grasped his assistant's arm. "Who was that, Pat?" he panted. His eyes glowed feverishly. He saw only waving black hair—a slender brown girlish figure—a firm little hand holding the reins.

In surprise Patson stammered: "I imagine that it was Señorita Isabella, sir. Why are you so excited?"

"That was no white woman," murmured Burns.

"The sun of Yucatan burns all faces brown." Patson gave a careful sideways glance at the excited scientist. Then he watched the rider.

"She is turning at the edge of the forest. See, she is coming back!"

Again the horse sped on, coming nearer and nearer. Then—it stumbled, its knees giving way. A sharp pull at the bridle stopped it. For a moment the front legs thrust forward into the air. Then came a mighty bound forward. The rider wavered in the saddle.

"For Heaven's sake, she is falling!" cried Patson. Burns was already racing toward the site of the accident. The mare galloped past the Englishmen. The saddle was empty. Close to the baobab the horse stopped, with heaving sides.

The rider was lying in the grass. She lifted her head a little, and when she saw the two Englishmen hastening up, she sank back with a smile of satisfaction and triumph.

Burns found the girl lying apparently unconscious on the ground, with her eyes closed. Thoughtfully he regarded the delicate face, crowned with luxuriant black hair, the tightly compressed full lips, the elegant English riding habit of the latest style, which enclosed her slender body.

Patson unscrewed the top of his flask and rubbed the temples of the unconscious girl with alcohol. Slowly the long silken lashes parted, and the great dark eyes wandered about searchingly.

"That was a bad fall, Señorita!" said Burns, bending low over the girl. "Can you stand up?"

A quick glance met the eyes of the scientist. "Thank you for your kind help, Señor!" said the girl dully. "I am already getting better. Just a little headache. I must have fallen on my head."

Burns started. This voice! At last he heard it again, this deep and yet soft voice from the olden times, sounding like the cooing of a dove. His arm trembled when he embraced the girl's warm body and carefully raised her. Scarcely was the girl on her feet, when she released herself and carefully, gracefully removed a few bits of grass from her jacket. She did not appear to have been injured by her fall.

"Did I frighten you, Señors?" Her pearly teeth shone in a gay laugh.

Was this Tuxtla? Was this elegant tanned Mexican girl, speaking fluently pure Spanish and apparently enjoying the amazement of the Englishman, the girl of the wilderness, the reincarnation of the Maya Queen Moh?

"It might have been bad!" remarked Patson cheerfully. "You have had fortune in misfortune, Señorita!"

"Have I the pleasure of thanking Sir William Burns and Mr. Patson, the guests of my brother?"

Burns collected himself. "There is no occasion for thanks," he replied, struggling with his embarrassment. "It is an honor for us to become finally acquainted with the beautiful sister of our splendid host."

"Finally?" The girl smiled sweetly. "Last evening I just returned from a—a trip, and this morning I was not alert enough to greet you before your very early start. Don Pedro will be inconsolable that he did not wish you good morning."

"Our work is pressing, Señorita Isabella. I did not want to disturb Don Pedro, and. . . ."

"You know my name?" interrupted the Mexican girl. The dark eyes under the golden yellow brows shone half surprised, half ironical.

Burns bit his lips. "It seems to me, Señorita, as though we had already met somewhere before," he said evasively, yet desirous of an answer.

"It is possible," replied Isabella indifferently. "I often come to Merida. Perhaps it was on the Corso at the Plaza Mayor? Excuse my bad memory!"

"No, not in Merida!" said the Englishman uncertainly. "Here, not far from the hacienda. . . ." Suddenly it struck him as ridiculous to connect Señorita Isabella de la Cosa with the Indian girl Tuxtla, and he hastily added, "It was probably a mistake, a chance resemblance!"

Again Isabella smiled. "And was my double also named Isabella?"

### A Family Scene

FOR a moment she enjoyed the embarrassment of the scientist, who was vainly racking his brain for a sensible reply. Then she gave a low call. The mare trotted up and rubbed her muzzle against her mistress's arm. Before Burns could aid her, she was in the saddle. She bent over, pulled at the laces of her riding boots, and got the ends together.

"Señor Burns," she cooed, "please help me a little! The horse is so restless."

Eagerly the scientist came to her aid, glad to escape further questions.

"Here, Señor! The lacing has slipped out. Yes here! Please make it tight!"

Holding the pommel of the saddle firmly with one hand, the beautiful girl bent down. Her sweet breath caressed his cheek and sent his blood pounding into his temples. In excitement, with awkward fingers, he pulled the laces below the well-shaped knee which shone through the thin silk stocking. For a moment longer he held the little foot of the girl in his hand, his eyes fixed on hers. Was he mistaken, or was there really in those dark depths a touch of softening and yielding?"

But Isabella straightened up. A hissing call sent the horse away. With a cheery laugh she waved back to him. Burns stook looking after her, lost in dreams, but Patson brought him back to reality by a friendly dig in the ribs.

* * * * * *

Isabella was lying on a high point, behind a clump of agaves and high ferns. The mare was grazing close by. The reins hung loose to the ground. No rope would have held the splendid beast as securely as a light call from its mistress.

Isabella, her slim neck stretched forward, was peep-

ing through the confusion of leaves into the distance. Far off, at the edge of the primeval wood, dark points were moving along, four of them in a row and two together ahead. It was the Englishman's expedition.

Which of the two dots was Burns? This sturdy man with the learned face and the bright blue eyes, looking clever and energetic and yet boyishly dreamy! Could one person have so firm a will and yet such kindly understanding? Had Quetzalcoatl looked thus, the stranger who had come from the sea-girt land of Mu to bring freedom and peace to the nations? Or was it perhaps Votan, the earth-born companion of the savior, the sturdy colonizer, compelling his foes by his shrewd kindness?

Isabella compressed her lips. Her nostrils trembled like the nostrils of a thoroughbred horse that scents his master. Suddenly she laughed aloud. What would Don Pedro say, if he knew that the strange man had laced her boot, which after all. . . .

A warning snort of the mare warned Isabella. She started a little. Behind her stood Don Pedro with his arms crossed. His brow was gloomy. There were vertical wrinkles on his low forehead, shaded by the side sombrero. In this pose his very thin body with the long withered legs was unspeakably laughable.

"The jailer!" thought Isabella, shuddering as if she felt a slight chill. "Good morning, Pedro," she said with an effort. "Is everything all right?"

"Where have you been?" The question sounded rude and discourteous, coming from lips accustomed to command.

"My brother is so concerned with me that he neglects his duties toward his guests," she answered, slightly mockingly.

Don Pedro stamped his foot on the ground so hard that his immense spurs rang. "Did you speak with the *caballeros**?" It sounded like a cross-examination.

Isabella looked at her long slender hand and the finger-nails which had a yellowish glint. "The gentlemen were very happy to meet the sister of their kind host," she replied calmly.

The Mexican's face was strangely distorted. "Didn't I forbid you to do so?" he hissed angrily.

Isabella quickly jumped up. Her dark eyes flashed. "A de la Cosa cannot be forbidden, Señor!"

"How ugly he looks!" she thought at the same time.

In amazement the haciendero stepped back. The sudden resistance surprised him. "I do not know a de la Cosa! Only a . . . ."

"Are you ashamed of your sister, Pedro?" interrupted the girl bitterly. "Does not the blood of your father flow in my veins, also? Are you ashamed of your own blood?"

Don Pedro laughed scornfully. "The gentlemen would have felt it a great honor to have been greeted by a mestiza as the lady of the house!" he cried angrily.

Isabella was again the yielding woman. "Señor Burns laced the mestiza's shoe." She looked sideways at the haciendero.

"I shall take steps to prevent a repetition of this occurrence!" said the man with icy coldness.

"Then it is war between us, Pedro?"

"War?" repeated the haciendero contemptuously. "One does not wage war with the brats of Indians, one chastises them."

Isabella wanted to cry out and seize her tormentor by the throat. But she clenched her teeth. Silently she gazed with her great eyes into her brother's distorted face. Gradually the expression of infinite grief vanished from the corner of her mouth, and from under her lowered lids shone only hate and desperation.

Don Pedro shrugged his shoulders and turned away.

"You made me a lady!" screamed Isabella in passionate excitement. "I cannot go back, Pedro. I will not—do you hear—I will not. . . ."

Violent sobs shook the slender brown body. "I will not—I will not. . . ." the trembling lips groaned again and again.

Don Pedro went back to the hacienda whistling. After a brief and violent conversation with Frau Stulp, the German housekeeper, he had his horse saddled and galloped off toward Ticul.

## CHAPTER IV

### An Odd Tale

"MANY thousand years ago the lands of Central America were covered by the ocean. At that time our moon was not in the sky. Another star then encircled the earth as nightly luminant, and it was much closer than the present moon. By its attraction it pulled the oceans of the earth together at the equator and heaped them up into a mighty flood which rose higher and higher, the closer the satellite came to the earth. Only mountain peaks and very high plateaus rose above the floods. You know the Indian myth, very wide-spread in Central America, of the great water of prehistoric times. It was then that there were made the puzzling holes and inscriptions in steep rocky walls inaccessible today.

"Closer and closer came the satellite, red as glowing iron. The mountains shook and the seas boiled. Horror seized mankind, and with sacrifices and prayers men tried to banish the evil spirit which had come from space to devour the earth. But the gods remained deaf to their pleas.

"Closer came the speeding star in its path around the earth, until the mutual attraction became so great that it burst into fragments. A hot scorching storm swept over the lands and seas of the tropics, the light of the sun grew pale, and an ocean of blood and flame filled the sky. A hail of fire fell incessantly and destroyed all living things.

"The masses of water heaped up at the equator, now free from the attraction of the shattered satellite, flooded the earth to the poles, its deluge destroying in the north and south what had been spared by the conflagration in the tropics."

Burns stopped, lighted a cigar, and leaned back in his chair. He slowly blew the fragrant smoke into the night air.

Mrs. Stulp was softly clicking her knitting needles. Now and then she moved uneasily on her chair and squinted over at the old full-blooded Indian woman who sitting apart in the grass in stoic indolence stared at the dwelling house.

Isabella lay idly in the hammock, listening attentively to the scientist's story.

"Three human beings," he went on, "were surprised by the frightful catastrophe in the open, far from any settlement. They were a tall white-bearded old man, a little seven-year old girl, and a young woman carrying an unborn child. The old man kept spying about for a place of refuge. As far as he could see, an immeasurable sea of flame was rushing toward him. At the foot of a gnarled evergreen oak a spring came from the hot soil, sending its water high into the top

* Gentlemen.

of the mighty tree and thus protecting it from the scorching heat.

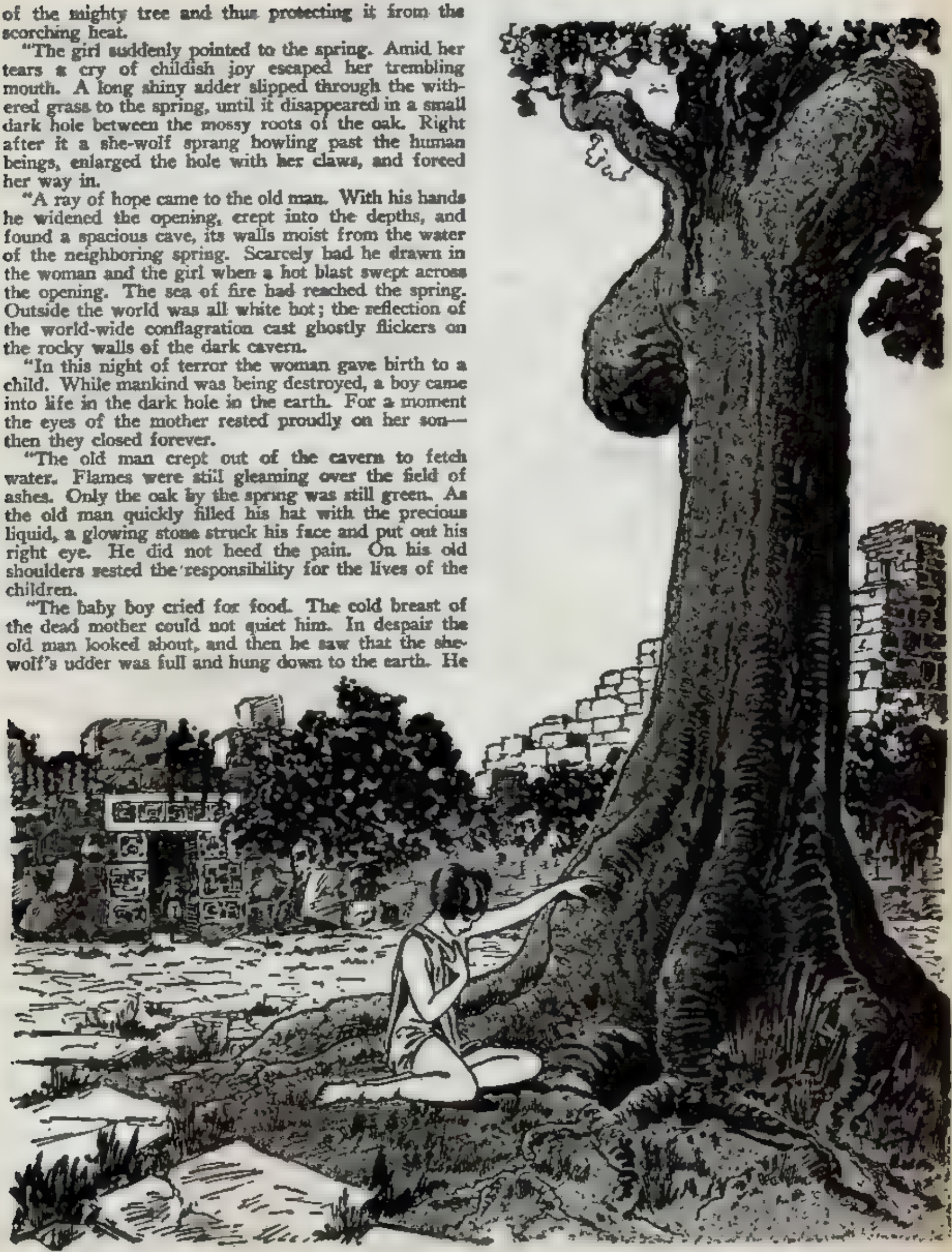
"The girl suddenly pointed to the spring. Amid her tears a cry of childish joy escaped her trembling mouth. A long shiny adder slipped through the withered grass to the spring, until it disappeared in a small dark hole between the mossy roots of the oak. Right after it a she-wolf sprang howling past the human beings, enlarged the hole with her claws, and forced her way in.

"A ray of hope came to the old man. With his hands he widened the opening, crept into the depths, and found a spacious cave, its walls moist from the water of the neighboring spring. Scarcely had he drawn in the woman and the girl when a hot blast swept across the opening. The sea of fire had reached the spring. Outside the world was all white hot; the reflection of the world-wide conflagration cast ghostly flickers on the rocky walls of the dark cavern.

"In this night of terror the woman gave birth to a child. While mankind was being destroyed, a boy came into life in the dark hole in the earth. For a moment the eyes of the mother rested proudly on her son—then they closed forever.

"The old man crept out of the cavern to fetch water. Flames were still gleaming over the field of ashes. Only the oak by the spring was still green. As the old man quickly filled his hat with the precious liquid, a glowing stone struck his face and put out his right eye. He did not heed the pain. On his old shoulders rested the responsibility for the lives of the children.

"The baby boy cried for food. The cold breast of the dead mother could not quiet him. In despair the old man looked about, and then he saw that the she-wolf's udder was full and hung down to the earth. He



(Illustration by Paul)

**At the foot of the tree was a woman. The sunbeams cast a bluish gleam on her black hair. Burns stood breathless, his eyes devouring the woman at the foot of the tree of life.**

made the venture and let the child nurse there. Common trouble had banished all fear from the wolf, and she willingly permitted it. Thus the she-wolf became the foster-mother of the founder of the new human race. The old man and the girl stilled their hunger with the edible fruits of the evergreen oak, which by a miracle had escaped destruction.

"They remained in the cave until the reflection of the burning world paled and went out. Then they climbed up to the light of day. The moon was no longer in the sky. Out of the field of ashes new life was sprouting, and the time of eternal spring had begun. The boy and the girl grew up under the protection of the old man and through their children founded the new human race."

Burns was silent. His glance rested on the dress of Isabella, shining brightly in the moonlight, and the glowing end of her cigarette.

"That was very pretty, Sir William!" said the voice of the girl a trifle wearily. "I never heard this story before."

"What have I just told you, Señorita," replied the Englishman seriously, "is not merely a story—it is the tradition of all the nations on earth. In it we find many old acquaintances—Adam and Jesus; Noah and the suffering mother of the Saviour; one-eyed Wotan; the spring of Urd; the sacred tree Ygdrasil of the Eddas; the tree of life of your Mayas; Lake Iquaque; the wolf as symbol of the eternal city of Rome; even the German Christmas tree, which is nothing but the glorification of the life-giving tree at the fountain of youth. Am I right, Mrs. Stulp? You hadn't suspected, had you?"

"Gracious!" said the German lady in astonishment. "How do you know all this?"

Burns smiled. "From the old myths and tales of the nations. What terrible cataclysms of nature must have occurred, that their memory should be able to survive through tens of thousands of years and up to the present day! The passing of thousands of years has of course changed the versions of these tales. According to the conditions of life of the peoples, the stories took on varied form, and the events were placed in later times. But it is one and the same root from which these manifold far-travelled stories come. To investigate this parent stock is my vocation."

"I understand nothing of your science," remarked Mrs. Stulp modestly, "but what you told was beautiful. The poor children and the good old man!"

### Isabella's Anger

"WON'T you tell us something of your discoveries of today?" put in Isabella with a certain sharpness. Burns was struck by the totally uncalled-for haughtiness in the tone of this question.

"My experiences of to-day are closely connected with the story of the first Aryan couple, Señorita! To-day I was seeking the place in the temple court of an old pyramid where I recently had a—a meeting that was unusually romantic, according to present standards."

He glanced searchingly at the girl, who had half sat up in the hammock and suddenly betrayed great interest.

"A high evergreen oak stands alone there among the ruins. By its strange form it reminded me of the miraculous tree of the white savior. Surely you know the story, Señorita Isabella?"

"Yes. What did you find?"

"At sight of the holy tree my imagination became active. I recalled the story of the world conflagration. I thought of the old life-giving oak, the cave by the spring of life, the snake which showed the way to the protecting refuge. Just then there was a rustling at my feet. A brilliant coral snake crawled up to the tree and vanished into a hole in the ground! You might imagine my amazement, if—if you were not a Mexican girl."

"And did you do the same thing as the old man of Lake Iquaque?" Isabella shot out the question hastily, as though in secret anxiety.

"I couldn't resist," replied Burns. "I opened the hole. . ."

Isabella breathed harder. "At the foot of the tree of life? On the east side?" she cried quickly.

"Quite right!" The growing excitement of the usually cool Mexican girl did not escape Burns. "I dug and made an interesting find."

A shrill scream cut short the words of the archaeologist. With a bound like a beast of prey Isabella left the hammock.

"Don't you dare to dig there any more! Don't you dare!" she hissed, and her dark panther-eyes glowed as if in incipient insanity. Her slim fingers clutched the Englishman's shoulders like claws.

"For Heaven's sake, Señorita!" stammered Burns, quite beside himself. "What's the matter?" Involuntarily he grasped the slender brown wrists.

"The revenge of Zeos will fall upon the desecrator of graves!"

With a shriek the raving girl twisted under the firm grip of the man. Then, bending as quick as lightning, her strong white teeth flashed for a moment as she broke loose. With a dull groan Burns let his arms fall. Before he could master his confusion, the strange creature had vanished into the shrubbery.

* * * * *

Mrs. Stulp paced back and forth in excitement. "Horrible!" she lamented. "What a hateful episode! This is my punishment for failing to heed Don Pedro's words." She fell again into her chair and despairingly ran her hands through her greying hair.

Burns silently regarded his right hand, which bore the marks of a severe bite.

"Terrible!" continued the old lady tearfully. "Don Pedro will dismiss me, he'll send me shamefully out of the house, and—and. . . ." the words were lost in heartbreaking sobs.

"Now, madam, it won't be so bad as that!" said Burns, trying to comfort her, while he bound up his painful hand with his handkerchief.

"You don't know Don Pedro, sir! He is frightful in his anger. He ordered me to keep Señorita Isabella away from the guests. I shouldn't have given in to her. She's always doing unexpected things, and I'm so sorry for her, poor Señorita!"

As best he could, Burns sought to quiet the excited little lady. "Have you been long at the hacienda?" he asked, to make her think of other things.

### Mrs. Stulp Speaks

"I'VE been here a little over a year. I used to live in the city. As long as my husband was alive, everything went well. He was an official in the international travel bureau. We made a living, and I earned a little extra money by piano lessons. But when Alfred died, things were hard for me. I was supposed to get a little pension, but you know how things are in Mexico. I am still waiting for it. It's hard, sir, for

a woman who's no longer young to get on all alone here in this country. I had made some connections through my piano lessons, and I finally got a position in a girls' school in Mexico City as chaperone and music teacher. Señorita Isabella was one of my pupils. She was a wild little miss, but surprisingly clever and wide-awake. In spite of her mad tricks I won the affection of the orphaned girl and cared for her. What more is there to tell? One day Don Pedro came to fetch his sister home. At Isabella's request he took me also. I didn't want to enter this unhealthful fever-district. But Don Pedro made me an attractive offer, and, besides, I was attached to the girl."

Sorrow ran through this simple tale of disappointed hopes, bitter trouble, and hard struggle for life. The fate of the emigrant!

"You are a brave woman!" said Burns warmly.

"It would have been better for me to have remained in Mexico City," went on Mrs. Stulp sadly. "You don't know all. I should have left this house long ago, if it were not so hard for an old woman like myself to find other means of support."

"What! You wanted to leave the Señorita?"

"It's true I'm fond of the girl, and she needs a gentle restraining woman's hand. Still——" her voice sank to a whisper——" "I'm afraid of her. She's so strangely different from what she used to be in the city. She often runs off in a quite impossible garment and wanders about in the woods for days. And when she comes back, she acts as if she were bewitched. She rolls her eyes and talks all sorts of nonsense as though in a dream—speaking in the strange Maya tongue, which I could never learn. She has to be put to bed and have her body massaged, until she finally falls asleep, covered with perspiration. The next morning she generally knows nothing of what happened on the previous day. At any rate she is wholly rational and normal again for some time. It's uncanny, sir! Besides, she is so—inconsistent. She can be the sweetest little girl in the world; then suddenly she's wild again, unapproachable, as proud as—I can't find the right words to tell you. It seems as if there are two souls in her. You saw it just now."

"Mrs. Stulp," said Burns slowly, "I don't yet see quite clearly. But I believe that in a little while I can at least partially solve the riddles involving the young lady."

Mrs. Stulp started. "You? You, a stranger, who first saw her to-day? How can you see through a mystery which I've been puzzling over for many months and which weighs on me like the sultriness of a gathering storm? I'm afraid of the people here, but I do pity the poor creature. I always think there must be some cure somewhere for her sick brain."

"Then you think Isabella insane? Does Don Pedro think so?"

"No one can tell what he thinks! He's as moody as our German April. Sometimes he treats the Señorita like a slave. Once he took a whip to her, and it was enough to make your hair stand on end. Oh, dear! I wish I had never come into this house!"

Burns bit his lips. "In Mexico City did you ever notice anything of this 'insanity' in her?"

"Never!" replied Mrs. Stulp quickly. "That's just what worries me so now. I think her only salvation is in getting away from here."

"Well!" said the Englishman. "I want to ask you one thing more, madam. Have you ever heard the name 'Tuxtla'?" he asked with forced calm.

Mrs. Stulp stretched out both hands in a defensive gesture. "Tuxtla?" she repeated in visible terror. "Oh yes, I know the word. When the girl has these terrible attacks, and lies in bed with her pupils turned upward, Don Pedro very softly whispers 'Tuxtla' to her. Then the convulsion leaves her, and she goes to sleep, smiling like a child. But good Heavens, sir, where did *you* learn this word?"

"I heard it in the ruins of Uxmal, madam—at the very spot where I to-day found something, the mention of which so excited the young lady just now."

"What was it you found, sir? Is it all right to ask?"

"Why not? I was digging between the hard, gnarled roots of the oak. It was slow work, and I haven't finished it yet. But at any rate there's no doubt that not very long ago a human body found a peculiar and romantic burial place in the maze of roots. Judging from the bones, the body can't have been there more than three or four years."

Mrs. Stulp listened with interest. "Then the tree of life is serving as a gravestone?"

"Yes. This fact alone would not have interested me so very much, though it is certainly surprising. But along with the body a number of singular objects, very valuable to the archaeologist, seem to have been buried. I found ornaments of the time prior to the Spanish invasion, goblets of pure gold, the remains of a chain made of tiny animals' teeth, which could not possibly have come from any sort of beast living to-day. Unfortunately the coming of night interrupted my work. Tomorrow, however, I hope to bring to light still more interesting things from the mysterious grave."

"Strange," murmured the German woman. "We live so close to the ruins and don't suspect what treasures they hide. Have you any idea about the source of these things?"

"Well, it's a well-known custom of the Indians to put into the grave along with the dead bodies their weapons and ornaments. Since I found no weapons, this is probably the body of a woman, which has found its last resting place at the strange oak. Apparently the relatives of the dead person did not suspect what treasures they were burying in the earth with the dead. I hope I can find out the heirs of the dead person, so that I may negotiate with them in the name of the Archaeological Institute for the purchase of the objects."

Mrs. Stulp gathered together her knitting and drew her cloak over her thin shoulders with a shudder.

"Where do you suppose the young lady is now?" asked Burns on the way back to the hacienda.

Mrs. Stulp twisted her hands nervously. "Mingo must look for her. She may be. . . ." The words died away into an inaudible whisper.

From the woods sounded the short hoarse bark of the puma seeking its prey.

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### What Don Pedro Saw

LATE in the night Don Pedro returned from Ticul. He sat unsteadily in his saddle. At the great cockfight in the posada he had taken part in the heavy excited betting, and to cool off he had poured glass after glass of pulque down his throat, hoarse from shouting. He was totally oblivious of time and space. Luckily he had already arranged the business beforehand. The dark-skinned Don Manuel Canoza had shown himself indeed a true *caballero*. He had at once understood the wishes of his powerful business friend.

"Yes, yes, Don Pedro!" the creole had said in his

mixture of Spanish and English, at the close of the tiresome discussion. "My coffee plantation on the southern border is very lonely, and my mother can well have some young company. Well! Before the first hurricanes commence the rainy season, I shall set out, and —damn it!—the little girl shall go with me. And you will pay me for the raw sisal two *reals* a ton above the market quotation in Merida. Good-bye!"

Thereupon the good man had spat in a graceful curve over two tables and had left the posada, to get a narrow gold bracelet from the local jeweler. "For the pretty little girl!" as he said.

Nothing further had been said. Yes, Don Manuel was a *caballero*—and certainly not an inveterate bachelor. Perhaps something might come of the visit! Who could tell?

Don Pedro's horse whinnied and threw up its head. Scenting the stable not far off, it began to trot. The moon had set, and deep darkness surrounded horse and rider. The animal knew the way perfectly. Countless times it had carried its master home over the long road from Ticul, after gay sessions at the posada by the plaza.

Already the workmen's huts could be made out on both sides of the road like dark shadows. All was in deep repose. A pale light in the eastern sky was the first indication of approaching dawn.

Don Pedro drew his woolen cloak closer about his bony body. Even in the warm late summer night he felt cold.

He noticed a faint shimmer of light from one of the clay huts. "The scamps should sleep, so they can work by day!" he grumbled, while he rode nearer to the hut. "I suppose they are again spending the night gambling and drinking." He bent in his saddle and peered through the low unglazed window into the interior of the hut. An amazing sight met his eyes!

Around a dimly burning candle-end squatted four motionless ragged figures. In the uncertain light the dirty, sharp-featured faces with their broad foreheads and coal-black eyes resembled grinning devils. If they had not occasionally clasped their pipes in their claw-like fingers and taken them from between their yellow teeth, they might more easily have passed for stone images than for living beings.

Amid the strange-looking Indians stood erect the slim, graceful form of Isabella! In muffled tones, but with violent gestures, she was passionately addressing the stolid redmen, who occasionally contributed harsh sounds to the conversation.

Don Pedro got off his horse and stole close to the window. He could make nothing of the conversation: languages had never interested him. The rogues had to learn Spanish, if they wanted anything of him!

"Another new and crazy whim of the girl," he thought. "Well, birds of a feather flock together! It is at any rate better than to have her sit with the English *caballeros* and tell her foolish stories!"

He got his long slender body partly through the window. "Isabella, my little dove!" he called, still under the influence of his drinks. "What are you doing here in the middle of the night?"

The girl stared. The Indians turned their heads and stared indifferently at the intruder. Isabella whispered a few more words to the redmen, in a threatening tone, and then slipped through the low doorway into the open air. Don Pedro grasped her arm.

"Isabella, let us go home!" he said gently, almost tenderly.

Isabella turned her head stubbornly to one side and walked silently beside her half-brother, who was leading his horse by the bridle.

"Well, my little sister pays strange visits!" he chattered on. "What sort of mysterious séance was that? Those fellows are supposed to sleep at night instead of chatting with pretty young girls!"

Isabella did not seem to be listening to his words. But when the haciendero began to sing in a drunken voice: "*Alma de mi vida*—soul of my life—" she interrupted him with the brief and pointed question, "When are the Englishmen leaving?"

Pedro started. "As soon as the rainy season begins, I believe!" he replied, adding mischievously, "And so you will soon lose your cavalier, poor girl!"

"Send Señor Burns away at once!" said the mestiza calmly.

Don Pedro stopped in surprise. "What do you mean? At once? Why so?"

Isabella looked at the ground. "I hate him!"

"You hate him? Ha, ha, that's good! But didn't he fasten your boot, Señorita Isabella de la Cosa?" He slapped his boot with his riding crop and laughed rudely. "Didn't I always tell you that English lords were no fit society for Indian girls? Now he has insulted you. Ha, ha, I see!"

"Then you will send him away?" insisted Isabella.

"*Carramba!* Are you crazy, girl? A Mexican of Castilian blood does not send his guests from his house."

Isabella pressed her hand to her heart and drew a deep breath, as though struggling with some resolution. "Pedro, I beg of you!" she finally said.

"You beg of me? That hasn't happened for a long time." Then Don Pedro seemed to soften. "I can't, little girl—but—" For a moment he hesitated: then he told her of his business friend Don Manuel and his plantation on the border.

"He is inviting you to pay a visit over the rainy season. You will not insult the *caballero* with a refusal!"

Isabella knew the creole. A harmless, good-natured soul in a rough husk. He was a matter of absolute indifference to her. "I shall go with Don Manuel," she said wearily, "when the Englishmen are gone, if you promise me not to receive any more guests who go digging in Xlapakh."

A yellowish red light shone in the eastern sky, as Don Pedro and Isabella entered the cactus gate of the hacienda. Mrs. Stulp, who had not closed her eyes, was much amazed to see the brother and sister approach the house chatting so pleasantly. Then she went sighing back to her room, to get a few hours of sleep.

## CHAPTER V

### Xlapakh

THE ruins of Uxmal shone in the oppressive heat. Yellowish clouds veiled the sun, bathing the stones in a dull tawny light and making the sultriness intolerable. Not a leaf stirred in the trees. Only the monkeys playing in the branches caused the dry withered creepers to stir and rustle. All growth seemed to have ceased. Nature was parched for water and waited in dull resignation for the nearing rainy season.

"What shall we do, Mr. Burns?"

Patson was endeavoring to wrinkle his cheerful brow. He looked in utter perplexity at his chief. Burns was thoughtfully whittling at a cactus. He did not reply.

Before the entrance of the temple-pyramid stood erect one of the four Indian laborers, as though intending to protect the holy place with his body. His black eyes from their deep sockets shone trickily under his bushy eyebrows as he gazed at the white scientists. The other ragged chaps were squatting in the moss a bit to one side, stupidly and apparently unconcerned.

"We won't give you the pay you've earned, if you don't keep your contract!" Patson cried over and over again to the spokesman of the Indians, in Spanish.

"We keep our contract," the latter replied calmly, "but we will not permit the destruction of the sacred tree."

"Go to the devil, you rogues!" burst out the Irishman angrily and took a few steps toward the Indian.

"Heed the wrath of the gods who dwell in Xlapakh!" hissed the redman. He held his arm straight out and did not budge. His comrades arose and moved slowly [illegible]

"Shall I land you a good smash on your jaw, my boy—you and your famous ghosts?" Patson began rolling up his sleeves in an unmistakable manner. "Get away from there, or something is going to break!"

With a most engaging smile he held his clenched fist under his adversary's long hooked nose.

"Don't do anything foolish, Pat!" cried Burns in English. "There's no sense in using force. They are four to two of us, and if we use our weapons we shall stir up all the Mayas in the vicinity against us and finally get ourselves in Dutch with the police. That must absolutely be avoided."

"Then are we to let these gutter-pups triumph, sir? That will be a dreadful shame—for sons of old England! They will lose all respect for English scientists."

Burns could not help smiling. "Is it more dignified for sons of old England to indulge in fisticuffs with gutter-pups?"

"It's terrible, damn it!" growled the angry Patson. "But what shall we do now?"

"To-day we shall go on digging at the Koh monument!" decided the archaeologist shortly. "Forward march!"

Cursing, Patson gave in and followed his chief, who was striding along rapidly. The Mayas followed silently, trotting along as though nothing had happened. Only occasionally half-concealed looks of hostility fell on the Irishman.

Burns smiled thoughtfully to himself. He knew to whom he owed this revolt. Then he suddenly thought of the tiny guardian of Tutankhamen's rocky tomb. It was an insignificant poisonous fly, which by an almost imperceptible sting had killed Lord Carnarvon, the bold intruder into the mysteries of the ages. Was it the revenge of Pharaoh?

* * * * *

It is a dark moonless night! There is intolerable silence about. Even the buzzing of the mosquitos is stilled in the frightful drought. Heavily, as though storing up trouble, the electrically charged air lies motionless above the sea of withered green.

In uncertain outline the cross of the tree of life stands out against the black sky. Now and then there is a ripple of sand from the cracks of the rocks split by the heat.

Cautious steps approach. The narrow beam of light from an electric torch moves over mossy ruins. Like a cool groping hand it touches the trunk of the ancient oak. It remains fixed on the roots. These massive roots extend into the earth on all sides, spanning great holes, as bare as skeletons. It is the grave among the roots.

There is the shadow of a tall powerful man. . . . the sound of falling earth and crumbling sandstone.

* * * * *

Burns straightens up. The light has gone out. A fresh battery must be put in. He searches his coat pockets. Then he suddenly stops.

He hears a soft, dull sound, like a very distant pistol shot. He raises his head to listen. Again he hears the sound! It is no shot. It comes from the near-by wall of the temple court.

* * * * *

From the maze of agaves and climbing cactuses on the wall two eyes shine like those of a puma on the hunt. A slim brown hand clutches the prickly knobs and creepers. A panting breath comes through half-opened lips.

The hand trembles, slightly shaking the splendid cereus plant to which it is clinging. With a dull sound the buds of the strange cactus spring open.

* * * * *

### The Encounter at the Grave

BURNS again bends over the excavation and digs further between the roots of the sacred tree.

He understands now. On the wall a noble flower has suddenly opened for its brief nightly blooming, the queen of the night.

The woman in the shrubbery gnashes her teeth. He is digging in her mother's grave!

Her slim body trembles as in a fever. The eyelids are lowered, the pupils turned upward. The blood pounds in her temples.

Every thought sinks into a bottomless sea. Vainly reason struggles against the demon which is taking possession of her. Black veils are floating about her like the inaudibly flapping wings of a night bird. . . .

A dreadful cry sounds from her tortured breast. A supple dark shadow speeds like lightning across the grass.

The scientist starts up. A heavy object plunges on him, and presses him down. Two hands madly clutch his throat.

In falling Burns stretches out his hands in the excavation. His fingers seek some hold. They grasp a round hard object and hold it fast mechanically, in senseless terror.

Suddenly the sky lights up unaccountably with a weird yellowish light! All around it becomes bright. A cloud shimmers as pale as dull frosted glass before the light.

Isabella's fingers release the throat of the Englishman and clasp behind his neck. The girl's body rests on his broad breast, with no life except in her eyes, while her firm white teeth are pressed against his lips.

In confusion Burns strokes her thick black hair.

"Tuxtla!"

"Sir?" whispers the mestiza questioningly.

The pale glowing cloud moves about in the sky, this way and that, like the light from a giant reflector of more than earthly power.

In amazement the two human beings watch the uncanny nocturnal spectacle. Hand in hand they cower at the foot of the tree of life and stare upward, until suddenly, without gradual transition, the mysterious cloud vanishes.

Again complete darkness veils the ruins of the enchanted primeval city at the Tropic of Cancer.

"Tuxtla! Why did you wish to kill me?"
"You were disturbing the peace of my mother, sir!"
"But not now?"
"No! Tonight my mother has died."

## CHAPTER VI

### Beyond the Equator

IN the little Chilean port of Caldera a solitary guest sat in the restaurant. A dark brown linen suit amply covered his slender little figure. On his head was an immense broad-brimmed straw hat. He appeared to be over fifty, but his quick movements indicated youthful elasticity.

In boredom he stared, now into the half-empty coffee cup standing on the marble table before him, now through the hardly transparent window panes into the almost empty street, which had a dazzling glow in the noon sun and sent harsh lights into the narrow uncomfortable restaurant.

"Steward!" he cried loudly into the corner, where at the bar a dark-skinned waiter in a white coat was leaning and lazily watching the mazy dancing of the mosquitos.

"At your service, your grace!" announced the mulatto in Spanish, without stirring from the spot.

"The devil!" thundered the guest. "Step nearer, boy!"

Slowly the waiter paraded up on his horribly long and shaky legs.

"The whiskey has to be fetched from the States, does it? I've been waiting almost an hour now. What's the matter?"

"Your grace will be served at once!" A poor attempt at a bow emphasized the politeness of the words. "The liquor is in the ice-house at the harbor. We seldom have guests so early. We are not provided for them."

"But the harbor is not a quarter of a league away! How does it take so long?"

"Pardon me, your grace! No one has gone to the ice-house yet."

"What! No one gone yet! Man, what game are you playing on me?"

"The little ladino isn't here yet, and your grace must see that I can't possibly go myself and leave the business to take care of itself."

"Where is the scamp?"

"Who knows?" replied the waiter, shrugging his shoulders and speaking in all seriousness.

The guest looked at his watch. Only half past eleven! How slowly the time passed! "Have you the Santiago *Times* here?" he asked.

"Certainly, your grace!"

The mulatto went to the bar, pawed over a mountain of crumpled papers, and after a long search pulled out a newspaper of immense size, which he handed the guest with irresistible grandiosity.

"Damn it! This dates from the time of the late Christopher Columbus!" cried the guest in disappointment, after he had cast a glance at the front page.

"It is the latest number, your grace!"

"Your latest number is three weeks old!"

"The service between Santiago and Caldera is often very irregular, your grace!" was the extremely polite reply.

Grumbling, the guest buried himself in the long, closely printed pages, and the waiter resumed his position as onlooker at the corner of the bar.

The mosquitos were buzzing. A sleepy feeling came over the reader. He was just about to lay down the paper with a yawn, when his eye fell on a small item which seemed to fix his interest. He spread out the wide sheets on the table, smoothed them out, and bent over them eagerly.

The news item was from Mexico City and was dated May 15. It ran as follows:

### A STRANGE PHENOMENON IN THE SKY

According to information from Merida, a peculiar and mysterious natural phenomenon was observed during the night of May 11 over the northern portions of the peninsula of Yucatan. About an hour before midnight small clouds here and there shone without evident cause in a yellowish light of such intensity that the deep darkness of the summer night was changed into a dull twilight, similar to the illumination in the case of a total eclipse of the sun.

The phenomenon lasted exactly eight minutes, according to all reports. Apparently this is a case of electrical equilibrium phenomena in the atmosphere—a sort of heat lightning, favored by the unusual heat and dryness of the past dry season.

### Berger and Finkle

A TRICKY smile passed over the clever, wrinkled face of the guest, and his left eye winked cunningly.

"An imaginative people, these Latin Americans!" he thought with a grin, while he reached in his pockets and searched around among a collection of pipes of all sizes, until he found a tobacco pouch of immense size. With extreme care he filled a very brown meerschaum pipe, slowly moved the blazing match back and forth over the glowing particles of tobacco, and puffed mighty clouds of smoke over the coffee cup which still stood waiting for further use.

From the harbor sounded long drawn out, shrill whistles, the steam sirens announcing the noon hour.

The glass doors of the restaurant were hurriedly pulled open. A broad-shouldered man of middle stature entered quickly and searched the room with a glance. His energetic white face, striking in these latitudes, colored with pleasure at the discovery of the solitary guest.

"Yes, thank Heaven, here we are!" he called from across the rows of tables. "How are things going with you here in Chile, doctor? This damned heat! I'm sweating like the engine of a torpedo boat!"

"I've been sweating this way for months, Mr. Berger!" The guest rose and shook hands with the newcomer. "And you let me wait a day longer than was agreed! Have you been occupied up there with so serious a game of cards that you quite forgot old Sam in this God-forsaken corner of the world?"

Berger shrugged his shoulders. "It isn't my fault, doctor! As soon as we get into regions where people live, our troubles begin." He pulled out a large handkerchief and wiped the sweat from his face and neck.

"Has anything happened?"

Berger looked cautiously around in the restaurant. When he discovered nobody but the sleeping waiter, he asked in a lowered tone, "Does that man understand German?"

"That would be asking too much of a Chilean barkeeper, Berger. Speak on without fear!"

"Well," went on Berger, "nothing has really happened, but there have been delays. Yesterday, when we sailed over the bay about seven thousand meters* up, to find an entrance, there was so much shipping down on the coast that we couldn't possibly descend without being seen. Then we had to go far out to sea to come down without being observed. We slowly

* About four miles.

came along to the coast under water. That took eight hours. But in front of the bay is a barrier of sharp reefs, one shallow behind another. Entering under water was impossible. So we came up and got right within telescopic range of a Japanese steamer. You know how all the world is trying to find out about our ships. Meetings must at all events be avoided. So down we went again to the jelly-fishes and star-fishes! Well, it was night before we finally succeeded in getting over the reefs and disembarking in the bay. Nothing more could be done at night. Probably I should have looked for you in vain."

"Where is your ship now?"

"In the bay, on the bottom."

"Well it's a mighty good thing that you finally got here, Berger. By Jupiter, tomorrow I should have been gone. You would have had a fine time asking your way through a country where everything is on a grand scale, even to storms. Do you think I'm going to stay here forever, feeding on wretched *tortillas* and fighting for every drop of decent alcohol?"

"But I see there's no lack of tobacco!" remarked Berger pleasantly.

"I should say! If that had been so, instead of Samuel Finkle you would have found a fine corpse."

"Where do you want to go, doctor?"

"Where? Only a person who has fallen from the moon could ask a question like that. Home, of course! My practice is falling off, and Mother Barbara's wines are spoiling!"

Berger sank back in his chair. "When do you want to be in Friedrichshafen?"

"Want!" grumbled Finkle. "As though that depended on me! Yesterday a cutter went to Antofagasta to connect with the *King George* of the Valparaiso-Panama-London line. In five weeks I should have been in Rotterdam. Now a steamer is going tomorrow to Valparaiso. But there I'd have to wait at least a week for the next Hamburg-American ship. It will be on your conscience, Berger, if my patients die out and Mother Barbara has to close her café for want of customers!"

"Don't worry, doctor! You'll easily catch up with *King George*."

"You mean. . . . ?"

Berger nodded. "Certainly! I mean that you'll go with us."

"But aren't you starting for—for up there?"

"Surely. It will certainly interest you to become acquainted with our splendid construction up there. Or wouldn't it?"

"I want to go home, Berger. I've had enough of this vagabond life."

"Doctor, it is far from my intention to keep you at Astropol. Immediately after my arrival Mr. Korf will start in the *R. K. III* for the plant on Lake Constance, where he is to present to the company council on the twelfth the results of his new experiments with electron rockets. To-day is June 7. If all goes well, we shall be up there on the tenth, and you can then go right on to Friedrichshafen with Mr. Korf. Thus in all probability you can be in Mother Barbara's café by the evening of the twelfth at the latest."

The doctor's mouth remained open in astonishment. "What! Five days from Chile to Lake Constance?"

"By way of Astropol, doctor! Unfortunately I cannot afford you the pleasure of going directly to Germany. That would of course take hardly twelve hours."

There was a brief pause, while Dr. Samuel Finkle took in the unheard-of proposition. Then he struck his hand on the table, so forcibly that the waiter started up out of his nap.

"Lads! You are the stuff!" he cried enthusiastically: "We must drink to your health! Hey, waiter!"

The mulatto, knowing no German, did not stir.

"But," added old Sam, as he was fond of being called, "maybe we shall be at Mother Barbara's before that chap brings the whisky. You'll have to content yourself meantime with coffee. That's excellent, anyway."

When Berger declined with thanks, Sam remarked, "Then do at least light a cigar. Unfortunately I can't offer you one. I've nothing but tobacco, and I believe you don't smoke a pipe. Or do you? Then go ahead! How is it possible to flit around our globe as though it had shrunk like a toy balloon with the gas leaked out? What new discoveries have you made?"

"Why talk of new discoveries?" replied Berger. "We've simply applied the rocket principle to ordinary aeronautics. That's all. In this way we get speeds up to 500 meters* a second, which are impossible for airships with propellers."

"Five hundred meters a second?" repeated Sam, amazed. "That's—why it's almost 2000 kilometers an hour!"*

"Certainly! Simple propeller airships can't accomplish that, even with the most powerful motors. The propeller needs dense layers of air to be effective. For this reason airships are limited to the lower altitudes. But the highest layers, with extremely thin air and little resistance, are exactly the right medium for speedy fliers like our rocket machines. One thing helps another there: the thin air allows tremendous speeds, and the speed of the flight replaces the greater supporting power of denser regions of air."

### Unforeseen Delay

FOR some time Berger went on talking about the new machines, arousing in old Sam the greatest curiosity with regard to the adventurous flight that was soon to take place.

Then Berger suddenly asked, "Is the cargo ready, doctor?"

Sam gave a reassuring gesture, calculated to remove all doubt. "For four days the petroleum casks have been ready at the bay."

"How much?"

"Eleven tons net weight, as agreed."

"Is the weight exact? You know how important that is!"

"It has all been weighed twice, every cask alone and then the entire load together. It all agrees."

"Good! How long do you need to turn over the work?"

"One afternoon will be enough. In three hours by auto we can be up at the saltpeter mines in the mountains. Who is replacing me?"

"The engineer Zimmerman. You know him from the laboratory at Friedrichshafen. He is waiting for us at the bay. If we start at once, we'll be back by night, load up immediately and leave before morning."

He got up as though wishing to lose no more time. "Where's your car?"

"Under a safe roof!" Finkle calmly puffed away at his pipe and gave no sign of intending to get up. "Naturally you're in a hurry, after making me wait

* About 20 miles a minute; 1,200 miles an hour.

here until I've actually become rooted. Just sit down again, Berger. We still have a long time."

"A long time? I thought you were in a hurry to get home."

"A day more or less doesn't matter to me."

"But why waste time here?"

Berger appeared vexed, but the physician remained unperturbed in his calmness.

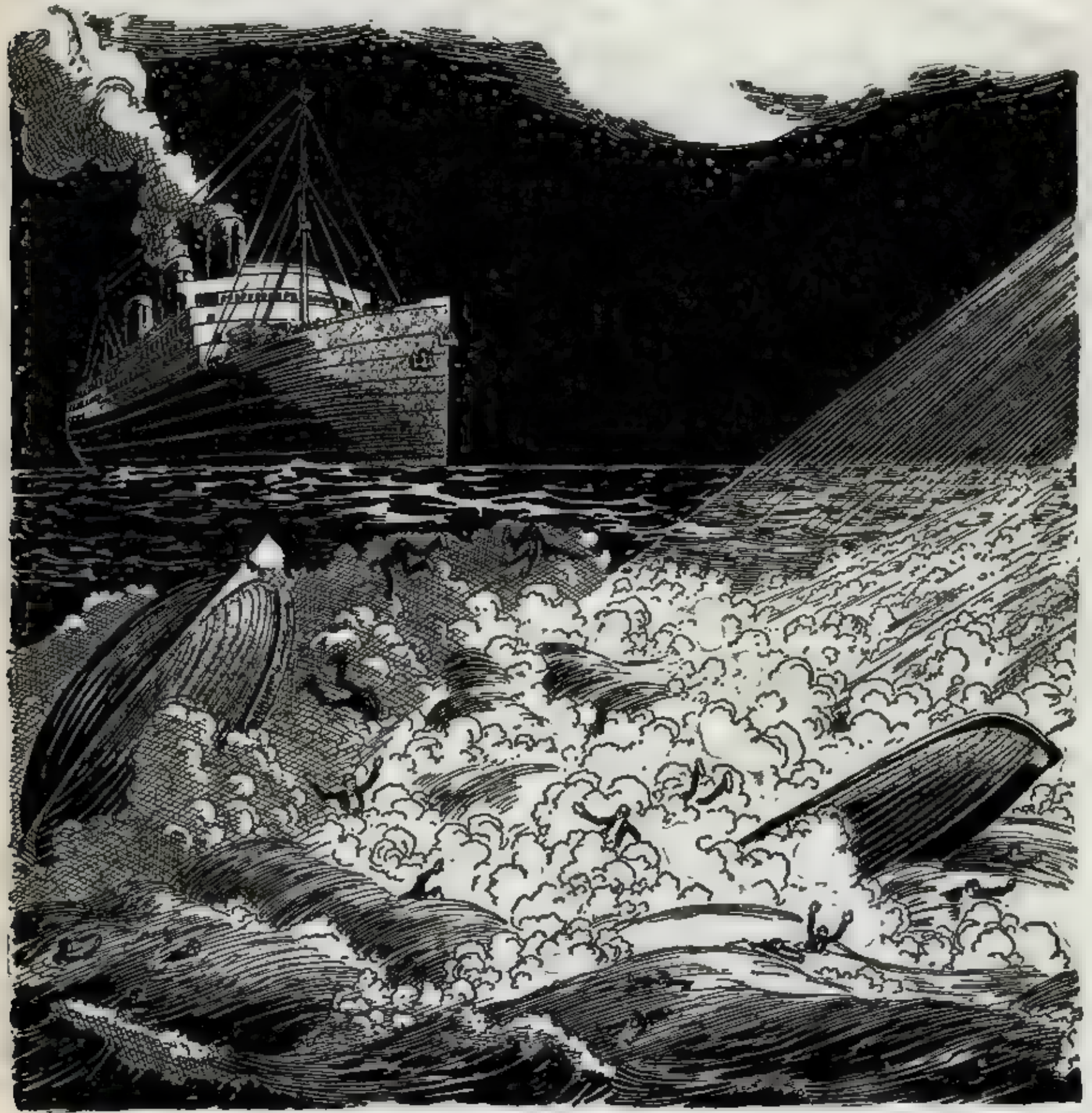
"First, I don't want to abandon the whiskey I ordered two hours ago!" he remarked, pleasantly. "I'm parched for a real drink."

"If that's all," put in Berger, impatiently, "I have some bottles of excellent liquor on board."

"Second, we must wait for the rain to stop. It ceases at three o'clock."

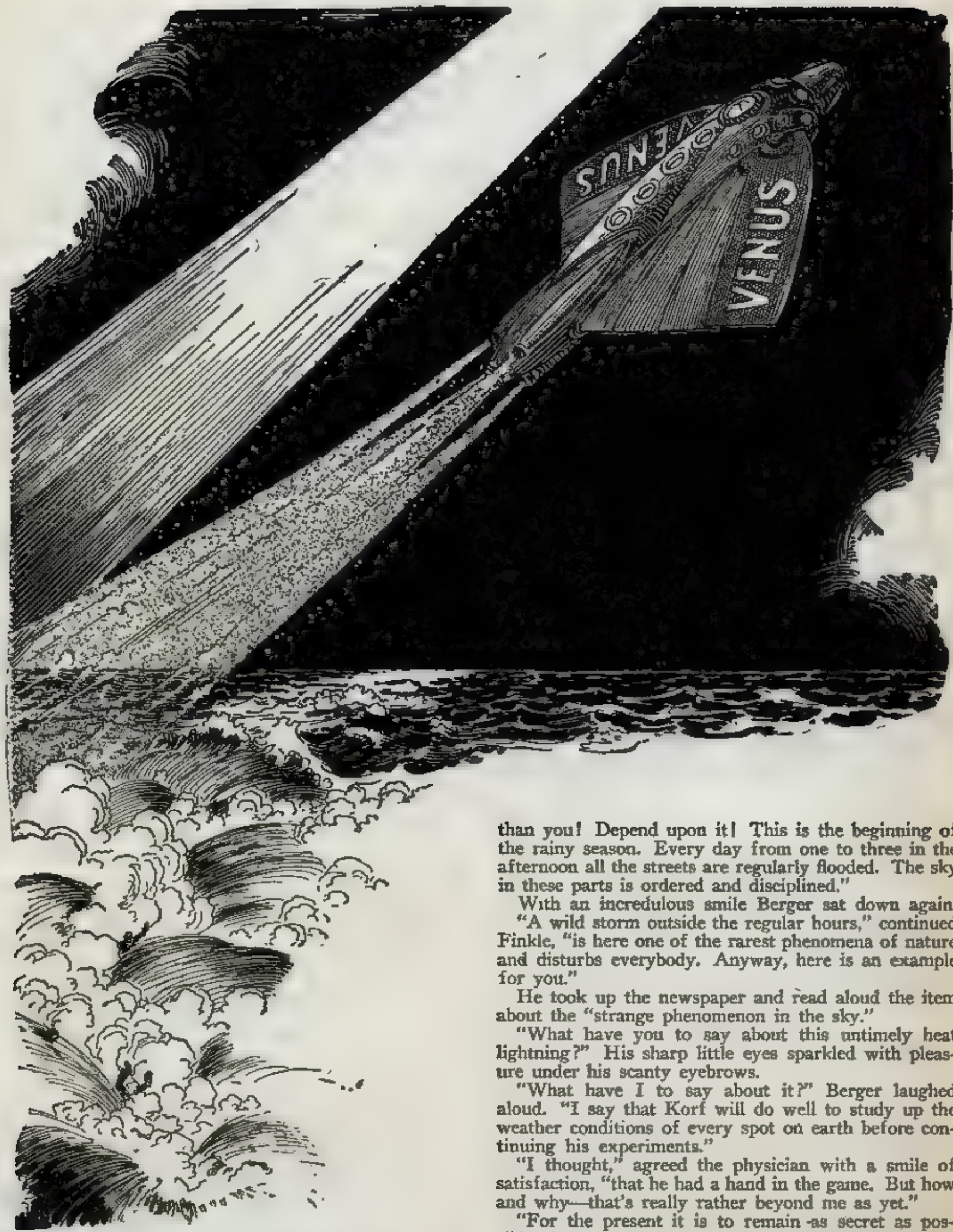
In surprise Berger looked from the placid face of the speaker out into the street, where the sun was shining brightly. "Are you seeing things, doctor? Where is it raining?"

"It's evident, Berger, that you haven't traveled much on this earth. Watch out: it's now half past twelve, and at one o'clock sharp the flood-gates of the sky will open, so that you'll thank Heaven and me that you didn't go out. At three o'clock sharp the sun will come out again for the rest of the day. Can you make that out, or shall I write it down for you?"



(*Illustration by Paul*)

**Suddenly there was a roar which became louder as tho a hurricane were coming. Over there the sea was becoming violent. From the stormy waves shot out a spray of sparks.**




"Do you believe in the tree-frogs, doctor?" cried Berger. "Your prophesying is a bit incredible."

"The speech of youth is hasty!" philosophized the old doctor. "My prophecy is exact—more punctual than you! Depend upon it! This is the beginning of the rainy season. Every day from one to three in the afternoon all the streets are regularly flooded. The sky in these parts is ordered and disciplined."

With an incredulous smile Berger sat down again.

"A wild storm outside the regular hours," continued Finkle, "is here one of the rarest phenomena of nature and disturbs everybody. Anyway, here is an example for you."

He took up the newspaper and read aloud the item about the "strange phenomenon in the sky."

"What have you to say about this untimely heat lightning?" His sharp little eyes sparkled with pleasure under his scanty eyebrows.

"What have I to say about it?" Berger laughed aloud. "I say that Korf will do well to study up the weather conditions of every spot on earth before continuing his experiments."

"I thought," agreed the physician with a smile of satisfaction, "that he had a hand in the game. But how and why—that's really rather beyond me as yet."

"For the present it is to remain as secret as possible, doctor! As secret as the sodium transportation which we carry on from all parts of the world."

"This damned secrecy has banished me for six months to the Chilean saltpeter mines!" grumbled Finkle. "Heaven knows that he could have found a more

suitable person. I should never have dreamed of having to play the part of director of a Solvay plant!"

"Well, you seem to have solved your problem as well as any chemical engineer could have done. You know that Korf must by all means avoid taking too many persons into his confidence. Just yourself, as a much traveled globe-trotter—pardon me, as an experienced traveler—well, you were undoubtedly the right man for the difficult start in Chile."

"Just pin on me the Order of the—"

A loud crash swallowed up the rest of the sentence. More crashes followed in quick succession. The window panes rattled. The sunlight vanished, and a yellowish twilight settled heavily over the streets, which suddenly became uncannily dark and gloomy. The roar of thunder filled the air, as though the Wild Huntsman and his band were riding over Caldera.

Then the rain broke loose. It was as though a giant hand had lifted the basin of the ocean and poured it over the continent. In a few moments the streets were rushing rivers.

## CHAPTER VII

### The Capsule of Bone

THE ocean! As far as the eye could see, there was water. Overhead was a deep blue cloudless sky. A gentle breeze rippled the endless expanse of water. The Atlantic was calm as a mill-pond.

Isabella stretched out comfortably in her chair on the promenade deck of the steamer *Bojador*, now a week out on the way from Havana to the Canaries.

Her eyes rested on the sea—on this ocean so great, so immensely vast, that one could travel weeks on it without seeing land! And these same bluish green waves that washed the shores of Yucatan also swept far over the sea against the shores of the distant northern lands which they were approaching!

How would it look there? Portugal—England—the vast city of London, of which Isabella had already heard so much?

To be sure, she knew it all from school, where she had been well instructed in geography. But what was all teaching compared with the thrill of reality and the direct experience of the boundlessness of the sea? What were all words compared with the actual taking of an ocean voyage?

Isabella closed her eyes. She suddenly felt the need of seeing nothing, of being undisturbed even by the sight of the sea in her splendid consciousness and knowledge: "I am traveling over the great water, as did formerly the beautiful and hapless Queen Moh in her search for the land of Mu."

* * * * *

Sir William Burns was walking uneasily up and down in his cabin. Nervously he lighted a cigarette, but after a few puffs he threw it away.

"But it's incredible!" he said excitedly to Patson, who was lying back on the little sofa, comfortably peeling a banana.

"Yes, sir, it's incredible!" echoed the assistant. "We shall have to use force."

Burns's fingers passed for the hundredth time over the egg-shaped body, which was large enough to fill his hand. No joint or fissure was to be found anywhere. The ivory-like yellowish case had been put together in some unrecognizable manner.

"Use force? Impossible, Patson! You can hear something hard rattling around inside this bewitched egg. If we used force we might destroy a discovery of real value to us. An object preserved in such a way has certainly been of great significance. But it's ridiculous that on the whole ship there's no file fine enough or sharp enough to cut open the bony casing without endangering the contents!"

"We should have bought a good diamond-cutter in Havana."

"I hardly believe such a thing could have been procured there. Anyway, we didn't have time. We ought to be glad we caught the Portuguese ship to Lisbon. We shall reach England four days sooner than if we had had to wait in Havana for the first ship direct to Southampton."

Patson sat up and in his turn examined the puzzling find anew. "But how was the thing made! Easily enough, if it were solid! It would be child's play to turn such an egg of bone! But the hollow inside? Well, haven't there been, somewhere and sometime, craftsmen who knew how to soften ivory?"

"So they say. Dynasties of Chinese mandarins are said to have handed down this art from generation to generation. I don't know how much truth there is in the story. But even so, that doesn't aid us at present in cracking this nut."

Patson preserved a worried silence. He had long since worn himself out in impractical proposals. Nor could he understand why Burns had so much interest in this special object—why his thoughts ran night and day on the contents of this capsule of bone. The unsuccessful nature of all his attempts to open the casing had brought the scientist into an excited frame of mind which already had a marked resemblance to a "fixed idea."

"I think," said Patson, after a brief period of useless reflection, "that there is a harder nut to crack than this one! A nut for which there is no diamond-cutter and on which likewise force cannot be used."

"What's that?" asked Burns absently.

"Well, isn't the girl just as unsolvable a riddle as the accursed capsule with the unknown contents? It seems to me as though I recognized just such an unfathomable nucleus in Tuxtla. Only you don't hear it rattle."

Burns shook his head. "You are speaking of Señorita Isabella de la Cosa, Patson!" It sounded like a reproof.

"Indeed I'm not! Miss Isabella is a fine girl, with whom it is pleasant to converse. More than that, she is a lady of all-around education and, for a Mexican, strikingly clever and well read. She speaks fluent Spanish and English and even some German, which this Mrs. Stulp has taught her. It will not be hard to get her a position as secretary in the Institute. At the same time she has a protector by the name of Sir William Burns."

The scientist kept on pacing silently back and forth in the narrow cabin.

"But when Miss Isabella turns into the Indian girl Tuxtla," went on Patson in a lowered voice, "then—then she gives me an uncanny feeling. The way she left the hacienda was certainly peculiar, sir! To gallop with flowing hair, in the old Maya dress, on that yellow horse, right through the city of Ticul, making the thin-legged dons open their eyes and mouths—right through the station, over the gate and the track in one bound, striking sparks and making the railroad men as rigid as pillars of salt,—well, sir, you know it as well as I. I must say, sir, that I thought she was crazy, and even to-day I can't understand how you

could help her in this flapper trick. Don't think ill of me for saying it, because I can't keep it back any longer."

### Introspection

BURNS bit his lips and remained silent. He could not be angry with his assistant, who had become more and more a true friend, because of the freedom with which he expressed his views. He himself did not know what to think of the manner in which he had been taken by surprise.

Taken by surprise?

No, a strange power must have influenced him—a power which could not be resisted, emitted by Tuxtla like a fluid which worked imperceptibly but as surely as a secret poison. There was no escaping it.

Escape? He almost laughed. Was he already so deeply enmeshed by the magic of this strange woman that he had no wish to escape?

Was he in love with her? Was she in love with him? He did not know. He only knew that Tuxtla belonged to him, that there could be no other way than for Tuxtla to be with him. Life without her seemed meaningless and impossible. Was that love?

Burns had clearly perceived that not only the passengers of the *Bojador* but also Patson saw certain tender bonds between the Mexican girl and himself, regarding them as absolute facts, though no external reason for this assumption had appeared.

Were there actually no other powers at work than the simple relations between man and woman?

Burns began to analyze the matter. He pictured his arrival in England, the parties and dances, the flirtations with the daughters of his colleagues and seniors, even the possibility—thought out in the minutest detail — of his standing at the altar with pretty blond Buddy Kingsley! And in all these pictures the thought of Tuxtla in no way troubled him. Could it then be love which linked him with the girl?

On the day when he had first seen Tuxtla by the tree of life, an inexplicable unrest had come over him. And in that sultry night when the mestiza had attacked the plunderer of her mother's grave, in animal fury, to strangle him with her slim brown hands—when he felt in his hand the smooth round surface of the mysterious capsule of bone, while at the same time the strong teeth of the mad girl had pressed his hand—then he had suddenly known: This woman is mine!

And then at the station in Tiesl, when she leaped into the starting train, without a ticket, without baggage, without even sensible clothing! When she stood trembling before him and looked pleadingly at him with anxious eyes, saying, "Take me with you, sir! I must be with you!"—then his problem had been solved; all the unrest had left him, and he could have shouted for joy in the clear understanding: "She belongs to me, like part of my body!"

Like part of his body! That was it! He loved her as little as he loved his hand.

"And if my hand pains me," he thought further, "I don't become angry with it and strike it off; I try to heal it. Not for this reason or that, but simply because it is my hand. What am I without my hand, and what is my hand without me?"

"Patson," he said aloud, "can I rely on you?"

"You know you can, Sir William!" Patson was almost terrified by this sudden and unexpected question.

"Good! Then promise me, Patson, that you will never again ask why I have brought Tuxtla with me."

When his assistant silently nodded agreement, Burns softly added, as if to excuse himself, "You know, she is my hand!"

In amazement Patson looked into his chief's face. But when he saw the quiet light in the grey eyes of the young scientist, he knew that his promise had been unnecessary. There was nothing more to be said.

## CHAPTER VIII

### Over Two Oceans

IT is a few leagues to the south of the harbor of Caldera. Two hours ago the sun sank into the blue waves of the Pacific, and the little bay, enclosed by mountains, is very lonely. Land and sea blend indistinctly in the uncertain light of the rising moon, which peeps out now and then between the ever changing cloud-banks. On the reefs is heard the monotonous roar of the ground-swell, the only sound in the quiet night.

Suddenly there is a violent crackling. The sound echoes dully from the cliffs and mingles with the more and more rapid explosions to make a long shrill howling. The startled monkeys and parrots of the woods on the shore join in with the ill-sounding cries.

The uproar lasts only a few minutes. Then it becomes weaker and is lost in the distance. If an observer had stood on the shore, he would have seen something dark rise from the water with flashes of light and circle up, until with the speed of lightning it shot to the northeast like a meteor and vanished in the clouds.

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At incredible speed the ship rushes through the sea of air. A faint light comes from behind it like the tail of a comet. In the west shimmers the endless extent of the ocean left behind. Elsewhere all is black night.

Higher and higher the mad flight goes. The altitude rudder is still set. In an oblique course the steel bird speeds forward and up.

The cloudless moon shines high in the sky. Already far below is the sea of clouds, shining palely in the flood of light from the moon, with the high snowy peaks of the Cordilleras showing through like islands.

Onward, and ever onward! The rocket-exhausts at the rear of the strange flying machine shoot their hot streams of gas into the thinning air. The cloud-banks vanish. The stars shine clearly and with less twinkling. With amazing quickness the moon sinks toward the west.

An hour has passed. Doctor Samuel Finkle is lying in a hammock of broad straps hanging on strong springs. Electric lights brighten the small control room, and the round thick-glass windows show black all around. The mats covering the lower windows move slightly, and the uniform roar of the rocket motor comes only very slightly into the hermetically sealed interior of the hull. There is nothing to show that the occupants are carried along at a velocity of fifteen hundred kilometers an hour.

Berger is busy with the steering levers and the countless measuring instruments mounted on a board in the centre of the room. Now and then brief commands sound through the speaking tube to the engine room.

"If you hadn't forgotten to build a smoking room," remarked old Sam after a while, "we could really believe you had made immense strides in the construction of your ships. How gently it goes! When I think

of the first ascent in the *Geryon*, the unpleasant pressure which seemed to drive our bones individually through our skins, I can't withhold my compliments, Berger."

The operator smiled. "Don't go in for praises too soon, doctor!" he replied, without looking away from the indicators. "The pressure will come soon enough. Without paying tribute to the gravity of the earth, no one is permitted to go beyond the limits of the atmosphere."

"Well, how do you mean? We've been going for more than an hour. After that length of time in the *Geryon* all the unpleasantness was past, and I was comfortably sleeping off the exertions of the start."

"Certainly! The *Geryon* began its course into space from the surface of the earth, to be sure—on the gliding track in Friedrichshafen, which was afterward broken up and used for junk. Where do you think you are now?"

"Somewhere between Mother Earth and the moon, I guess. I hope you're not taking me for a ride in the Milky Way!"

"Even the Korf Company doesn't go so fast as that, doctor. We have not imitated the 'shot into infinity'; for the present we are floating on our wings over the South American continent, just like any ordinary terrestrial airship. Only we are not carried forward by a propeller, but are driven through the air by recoil action, according to the rocket principle.

"Have you noticed how fast the moon and the stars seem to be moving? If we should ever fly to the east like this, you could experience the peculiar spectacle of seeing the sun rise and set twice in twenty-four hours. And if the course were toward the west, the sun wouldn't rise at all, and eternal night would surround our ship."

"How so?"

"It's very simple. It's because our ship has approximately the same speed as the rotation of the earth. In the one case we go toward the sun with double the speed of any point on earth, and in the other case we equal the rotation of the earth, making it exactly as though we stood still in space and the earth revolved below us."

"I don't follow you. But do tell me when and where the trip into nothingness takes place!"

"Not until we've risen so high that the last remnants of the atmosphere are just enough to support us. Then the main exhaust is started and the flight into infinity begins. That will be in half an hour."

"But for Heaven's sake! Why all this fooling around? Why this loss of time?" Finkle could not make out the advantage of this innovation.

"This apparent loss of time," explained Berger placidly, "means a considerable saving in operating materials. Remember, doctor, that a rocket which rises at the edge of the atmosphere no longer has to penetrate the atmosphere. On this principle the space ship can also attain considerably greater speed for the trip, in addition to which the attraction of the earth at heights of a few hundred kilometers is decreased by quite a welcome percentage."

"That's something that even my medico-chemical brain can understand! But in any case we have to penetrate the atmosphere which surrounds our planet, whether in rocket style like the *Geryon* or like an airplane as you are doing now!"

"Your logic has one weak point, which you really could not foresee. For a terrestrial airship, moving slowly in comparison with a space ship, the air resistance is really insignificant. But for speeds of many kilometers a second, such as space rockets must have in order to be able to overcome the gravity of the earth at all, this harmless bubble of air becomes a veritable wall. In breaking through it a large part of the fuel is consumed. Also, such a wall would smash like an eggshell ships of light construction like this one. This is quite apart from the heat of friction and other difficulties which Korf formerly overcame in truly brilliant fashion in building the *Geryon*. But have you any idea what the trip to the moon of the immense *Geryon* cost? For merely financial reasons it would have been quite impossible to use cargo-ships of the construction of the *Geryon* to transport the material for building Astropol."

### Reminiscences

WITH sorrowful pride Finkle thought of that late summer when he had returned from his journey to India and had found his brother-in-law August Korf, chief engineer of the airship works at Lake Constance, perplexed by his half-finished task. At that time the whole world had distrusted the mad invention of the Swabian. Technical science had stamped as impractical the project of overcoming gravity by means of the rocket-motor, and no German capitalist had summoned up the courage to squander his money on the fancy of a mathematician who was confused in his integrals.

To be sure, hesitant offers of capital had several times come from foreign countries, but Korf had resolutely declined. His work was to be a national opportunity for the German people!—the people, by the way, who laughed at the genius and his efforts and made sport of him in the comic papers.

Not until the powder-rocket of the Russian engineer Suchinow, built with Roumanian money, had ascended to the moon and had not been able to return, did the occupants' call for help stir the German conscience, and open its purses.

As yet not quite a year and a half had passed since the fortunate space ship *Geryon* had returned from its flight of discovery, rejoiced at by hundreds of thousands who had gathered at Lake Constance to greet the bold pioneer of spatial navigation. The entire civilized world was in an uproar. August Korf, the commander, Hans Berger, first officer, Dr. Finkle, the ship's doctor—these were names more known than any others of the present time, and all the nations strove for the honor of being able to greet these men within their boundaries as guests.

But Korf's restless fiery spirit had not been content with this brilliant success. He had not rested on his laurels. He advanced his work toward the complete freeing of the human mind from the limits imposed by gravity.

The Korf Space Ship Company arose almost over night. And what this company had thus far accomplished under Korf's guidance would have stupefied the world, if the world had even guessed it.

In all civilized nations it was known that the company was building a series of new and improved space rockets, and that these ships were constantly undertaking flights to investigate space. Korf's publications regarding the make-up of the moon were occupying the world of astronomy, the representatives of which were engaged in the most violent literary warfare. But what the men from Lake Constance were really doing up there between the earth and the moon was subject to guesses and wild rumors. Thus far the company had been able to keep its secrets.

### A Forced Landing

"DOCTOR!" Berger interrupted, the physician's thoughts.

"What is it, Berger?"

"Were you actually present when the sodium cargo was weighed?"

"Certainly I was present."

"Do you know for certain that no error took place?"

"I read the weight myself."

"What sort of a scales was it?"

"The chief hydraulic scales at the mine. Why do you ask?"

"Because the weight doesn't agree, doctor!"

"How do you conclude that?"

"From our course. With the correct load we should be making eighteen hundred kilometers an hour, and we are making just fifteen hundred. The load is too heavy!"

"Isn't that perhaps due to my person?"

With a smile Berger looked at the slender little man.

"We are again four men on board. Herr Zimmermann remained behind to take your place. It can only be the cargo."

"Does that matter much?"

"Not now— but. . ."

"But what?"

"We dare not venture the ascent into space. The fuel for the main exhaust is exactly reckoned for a cargo of eleven tons."

"Damn! I'd be willing to put my hand into the fire, if the weighing is not correct, Berger!"

"I certainly believe that you read it off and added correctly, doctor, but perhaps the scales were defective!"

"I can't vouch for that. Who could guess it? The mine loaded all its output on this scales."

"Bad business. It is fortunate that we discovered the state of affairs before leaving the atmosphere."

"But what now?"

"We must sacrifice twenty per cent of the sodium. There's no other choice."

Sam felt visibly relieved. "Well, if there is nothing worse, let us just discard it!" He jumped up and began turning back his cuffs, as though getting ready for the work.

Berger shook his head. "We can't just throw it off."

"Why not? The casks won't fall on anyone's head. If they did, it would be no loss to have a few less gay dons running around in Chile. They should keep their scales in better shape!"

"You've become very humanitarian in the land of monkeys and parrots!" said Berger with a laugh. "We won't and we can't burden your conscience with killing anyone, doctor, for several reasons! First, there are no longer any casks. The sodium is floating freely in the petroleum in the specially constructed tank. Second, the bits of sodium in falling from one hundred and fifty thousand meters would disintegrate into atoms which wouldn't hurt a mouse. Third, we can't throw it out at all."

"You can't? In the *Geryon* you uncoupled half the ship, when the fuel of the auxiliary rocket was burned up!"

"The *Geryon* was built for this purpose out of three separate rockets. Naturally no provision was made for throwing things out of the sodium tanks. Our designers will henceforth take into account the reliability of Chilean scales.—From within we can't get at the cargo at all."

The doctor and "director" of the Caldera Solvay Plant scratched his head thoughtfully and looked up at Berger, who stood a head taller.

"Then we shall have to turn back, Berger?" sounded softly from the compressed lips.

Berger had already set the wings for descent and had throttled down the rocket-motor. "We're already sinking, doctor. We're going down in a glide. We shall be very late, and I'm afraid we sha'n't find Mr. Korf at Astropol."

Finkle was vexed. "Such nonsense!" he muttered. "One can't rely on anything in the land of the dons. We must notify Engineer Zimmerman before the next cargo is taken on board. Where are we now?"

Berger looked at the flight indicator.

"We've gone three thousand kilometers ahead since the start. We're now about one hundred and forty thousand meters above the eastern coast of Brazil. In an hour at the latest we shall again be floating on the ocean."

The flight went lower. In the distance ahead of them the wide ocean again glimmered. But this time it was the Atlantic, north of the equator.

## CHAPTER IX

### The Dot in the Atlantic

LIKE a chain of gay Japanese lanterns the brightly lighted windows and port-holes of the *Bojador* shine in the night, reflected in the clear water, while the spray at the sharp bow of the solitary steamer gleams like the autumn harvest at sunrise.

Now and then the sounds of a waltz pass out over the dreary waste of the Atlantic. There is a dance on board. The great dining room has been cleared. The central light casts a white illumination over the warm excited faces. The stewards in pure white coats pass among the whirling couples balancing great pyramids of glasses and plates of ice cream.

Isabella is dancing—dancing with the joyous seriousness of her twenty years, with the abandon of the races of nature, passing from one partner to another.

Patson was sitting in the corner with a stout Dutch dealer in dyewood and a black-haired Budapest violinist, watching with almost jealous eye the brown girl, whose extraordinary beauty was celebrating its triumph. The dancers were crowding about her, in spite of the rather ordinary character of her wardrobe, hastily purchased en route.

"Do you think, sir," said the fat man to Patson between two drinks, "that the lady will favor me with the next one-step? You know waltzing is too much for me. I'm past the waltzing age!"

He laughed greasily. The black eyes of the Hungarian were fixed on the thick gold chain which hung across the well-filled waistcoat of the Dutchman.

"Pardon me, sir," said the Hungarian, whose harsh accent came out even in his English, "but the lady has already promised me the next dance. I am very sorry."

The music stopped. Heated and breathless, Isabella returned to Patson's table. At once the Hungarian sprang up and with a flood of compliments tried to have her sit beside him, as though he wished to be sure of his prize for the next dance. But the Mexican girl declined with a smile.

"Mr. Patson," she said in a voice which trembled a little, as though from fatigue, "please accompany me

on deck. I have a sudden great desire to see the night sky and the ocean."

Patson was accustomed to her quickly changing moods. When Isabella, taking his arm, lightly walked through the hall to the stairs, the Dutchman grinned and poked the slim nervous Hungarian in the ribs. "A fine girl, isn't she?" For answer he got an angry glance from the coal-black eyes.

On the promenade deck Burns was walking slowly up and down. He cared nothing for the ball room, and since he knew that Patson could look after her, he had withdrawn early.

The splendor of the clear, starry sky had attracted him. Alone with himself and his thoughts, he was much closer to Tuxtla than in the stifling atmosphere of society, whose chatter came between them like a wedge, even though he felt her physical nearness.

Midnight was long past. In the east Venus was rising in full splendor above the clear horizon—Venus, the morning star, a courier to announce its mighty lord, the sun, and the coming dawn.

Burns leaned on the railing. He drew in long breaths of the sea air. As he leaned, he felt the pressure of a hard object. Mechanically he put his hand in his pocket and held the capsule of bone between his fingers.

The secret of the puzzling object seemed to be ever present in his mind, as if it were trying always to remind him of its existence, to entice the scientist's thoughts into fathomless abysses. Suddenly he laughed out loud.

What if the thing were merely fooling him! What if it was nothing but a pretty plaything turned in bone, a solid piece of elephant's tusk with a natural air-bubble in the centre, a crack which had gradually widened by shocks until a splinter had broken loose! And this splinter, this nothingness, had so excited his imagination and so tensed his nerves that the mere thought of the contents of the bony egg made him physically uncomfortable.

In a sudden burst of anger he raised his hand to throw his find overboard, into the Atlantic at its deepest part. Let it rest down there among the coral reefs and the sightless deep-sea monsters! That was where it belonged, in the realm of bizarre nonsense.

But no! Burns's hand sank down. Would he in this manner be freed from the bewitched gift of the primeval forest of Mexico? Though it were at an unattainable distance, would it not still control his thoughts? Would he not be saying to himself all the more, in painful uncertainty, "Now the riddle is forever unanswerable?"

The riddle, which had perhaps no other secret than to be no riddle at all! Perhaps!

One is not freed from a chain by greasing the links, in order not to hear them clanking together. A chain must be broken!

Burns gritted his teeth and started back. "Break it! With the carpenter's axe! What if the contents are broken also! Only thus can I be freed from the spell and cast the fragments along with the senseless splinter into the sea. I must know!"

He stopped. A muffled but resonant voice, like the cooing of a wild dove, sounded in his ear. A tall, slender woman was coming along the deck beside Patson.

The voice of Tuxtla, the form of Isabella! Tuxtla, the unfathomable, incomprehensible nucleus! Isabella de la Cosa, the smooth, jointless shell, on which every chisel slipped! All at once Burns's desire for the carpenter's axe vanished.

### Tuxtla's Excitement

ISABELLA and Burns were occupying deck chairs side by side. Now and then giggling couples passed by, who had fled from the glaring lights of the ball room. Distant voices sounded, with occasional snatches of the dance music. Then again there was no sound at all but the rushing of water and the tireless pounding of the engines.

"Why did you send Patson down again, Miss Isabella?"

"So good a dancer is easily missed in the ball room."

Burns was again silent for a time. Then he said, "Miss Isabella, by coming on deck you saved me from committing a folly."

"Then even I have been able to do something good, Sir William? What sort of misdeed were you contemplating?"

Burns began to take the egg of bone from his pocket. "I was going to smash this pretty thing with the heavy axe of the carpenter, merely to satisfy my childish curiosity about its contents."

"And now?"

"I'm afraid of heedlessly breaking some costly contents with the rude tool," went on Burns very slowly, "or—what would be still worse—of finding nothing at all in it!"

Isabella half turned toward him. "May I see it? What is this object that makes Sir William Burns a philosopher?"

The Englishman handed his neighbor the capsule, which shimmered in the half-light of the port lamps. Isabella made no sound. But suddenly there was a hard, heavy blow: the egg had fallen to the deck. Burns picked it up quickly and leaned over toward Isabella. To his amazement, the girl was lying back in her chair, motionless, with her head fallen back.

"Miss Isabella!"

There was no reply. Burns seized her brown hand, which was resting on her rustling silk coat. It was as icy as the hand of a corpse. The dark color of the thin face had faded to a dull yellow. It contrasted uncannily with her deep black hair.

In horror Burns jumped up. For a second he reflected.

"The first blow of the axe?" shot through his mind. Then he tried to raise her up. The girl's eyes were not closed. The lids with the long silken lashes were wide apart showing the whites of her upturned eyes while the pupils were hidden. She seemed to stare fixedly at the Englishman.

With a quick glance he surveyed the deck. None of the noisy curious crowd of passengers was near. He tenderly stroked the girl's arms.

"Tuxtla!" he said softly.

Tuxtla slowly raised her hand, but it fell back heavily. She breathed again, but her pupils were still turned up under her lids.

"Tuxtla!" Burns repeated. He remembered what Mrs. Stulp had told him.

Tuxtla breathed heavily. The air whistled spasmodically through her clenched teeth, as though she were struggling with some oppressive force. Burns watched her in eager suspense.

There was a loud sigh, and then her lips parted.

"Huitaca," she whispered.

A moment of welcome silence followed. Then all at once she screamed, "The waters—the waters are coming—oh!"

Tuxtla's body twisted and writhed as though in

frightful anguish. Filled with horror, Burns listened to the disjointed Maya words. Again the girl's look mirrored the inner struggle.

"Sir—Huitaca has the stone—but—she did not—want it!"

It sounded like a cry dying away. The tension appeared to lessen. Burns thought the attack was already past, when suddenly a cry to chill the marrow in one's bones rang through the night: "Botschika—the morning star—I am burning!"

Tuxtla started wildly up from her chair. Burns held her back with all his might. "Tuxtla! Tuxtla!" he kept saying, the only remedy he knew.

"Hey! What's wrong here?" It was the voice of the officer of the watch, close by.

"Oh, nothing sir!" replied Burns as calmly as he could. "Just a little fainting spell! You understand, the heat down in the hall—and the wind up here on deck—"

The sailor grinned. "Some natures are so delicate that they get seasick from just hearing some one set down a basin. Shall I call the doctor, sir?"

"Thank you for your kind attention. But it won't be necessary. The spell is already over."

In fact, Tuxtla was entirely calm. Her breast rose and fell as evenly as in sleep.

### Over Buried Lands

THE officer of the watch saluted and walked on. Burns followed him a few paces.

"I'd like to ask you something, sir!" He was struggling with his excitement and striving to appear calm and unconcerned. "Would you have the kindness to tell me where we are now?"

"About fourteen hundred miles west of the Canaries and a bit to the south," replied the officer, after a slight pause for reflection.

"Thank you very much! Would it be possible for you to give me the exact longitude and latitude of our present location?"

The officer looked at him in amazement. "How can that possibly interest you, sir? Besides, it would first have to be reckoned."

"I beg of you to do it, sir!"

Burns was so insistent that the officer at length shrugged his shoulders and grumbled, "Then for Heaven's sake come along to the bridge!"

Sir William spread a few robes and cushions over Tuxtla, after convincing himself that she was sleeping soundly and peacefully. Then he followed the officer of the watch.

Obeying a sudden intuition, he had made the unusual request for taking the ship's position. The few disconnected words of Tuxtla had shaken him strangely. Huitaca! He knew well the old Indian story of the beautiful refined wife of King Botschika.

Huitaca, so the story ran, had found out and misused the secret of her husband and king's power over men, beasts, and natural forces. She caused the streams to flow over the land so that all the continent was under water up to the tops of the mountains. To punish her for this crime, King Botschika had cast his wife Huitaca up to the sky.

Who was Botschika?

Other forms of the story were adorned with other names, and Botschika's flooded city was transported to other lands. But an actual natural phenomenon must have been at the basis of these accounts, an event of such violence and impressive significance that it remained in the memory of the tribes and lived on in the traditions.

Feverishly the archaeologist waited for the result of the observation. After a bare quarter hour, which seemed endless to him, the report came:

"Forty-two degrees fourteen minutes west longitude, twenty-five degrees thirty-eight minutes north latitude!"

Dry numbers, these, but they struck Burns like a violent blow. They designated the exact position of Atlantis, the position assigned by science to the sunken isle of Poseidon, according to the report of the sage Solon!

The *Bojador* was floating over Thula, the golden city at the bottom of the sea—the fabulous capital of storied Mu, the land sunk in mid-ocean.

Had Tuxtla sensed this? Was it a strange coincidence, or what?

## CHAPTER X

### The Illuminated Ocean

STARTLED and disconcerted, Burns hastened back to the sleeper. Meanwhile the deck had become full of life. More and more couples, tired of dancing, had appeared. All wanted to get a breath of the cool night air before going to bed. On the starboard side Burns found a crowd of people. Evidently there was something to be seen there. Cries of astonishment ran through the crowd and some of the passengers hurried to their cabins to fetch field-glasses.

Tuxtla was still in the deep sleep of exhaustion. She smiled in her dream like an innocent child, and all excitement had left her brown face.

For some time Burns gazed reflectively at the puzzling creature, whose terrifying divination touched on the oldest mysteries of mankind. What might slumber hidden from consciousness behind that clear, unwrinkled brow? Had she herself any idea of what at times took place in her? Did she know that through her mouth the grey past reached out into the present, with serious and foreboding words, like prophecy itself?

A crowd ran past the Englishman, gesturing and chattering in lively fashion. The noise increased. The entire company of guests of the floating hotel had assembled on deck and were pressing to the starboard rail.

Burns slowly walked over. "What's the matter here?"

"There's a light on the sea to the south!" cried one of the mates as he rushed by.

Further astern the chain of observers along the rail was thinner, and now Burns could see it himself.

Far out in the distance a glow of light was shining in the night, as though the water or the air shone with some sort of phosphorescence. A doubtful yellowish gleam penetrated the darkness. The distance could not be estimated. Phosphorescence in these latitudes?

All at once the light had disappeared. Hundreds of eyes greedily pierced the darkness. Then the crowd began to move. They began running aft so that the planking groaned. The gleam had reappeared. It was now in the west, and, unless there was some illusion, it was moving nearer to the ship.

Soon there could be no more doubt. The phosphorescence was moving, or rather, it was flowing. The luminous part of the sea was spreading out, increasing in breadth, and at the same time lessening in intensity. After a few minutes the whole horizon seemed bathed

in pale twilight, as though the morning were approaching from the west.

The captain stood undecided on the bridge along with the officer of the watch. In his many years at sea such a phosphorescence had never come before his telescope. He continued to survey the horizon silently through a mighty marine glass, while a mob of excited questioning passengers swarmed about him.

Gradually the illumination in the west began to condense again, as though a giant reaper with a mighty rake were collecting the shimmering particles of the sea into a heap. The nocturnal light shone more and more intensely. Its centre moved—came rapidly nearer—and then. . . .

A hundred throats uttered a single cry!

The ship was flooded with a blinding light. The stacks glowed like molten iron. the wires of the antenna flashed against the sky, and the planks gleamed as in the tropical sun at noon.

It was only for a second. Then it was over, and again dense darkness settled over the steamer, which was still pursuing its course unchanged. The eyes dazzled by the brilliant flash could not make out anything at all.

In frightful excitement passengers and crew swarmed together. Like a spirit hand from beyond, the ray of light had clutched the careless gaiety of the dance. Not a loud word was spoken. Whispered words, disconnected and slow, came over the pale lips which trembled with horror. The sound of the ship's engines had an uncanny effect in the pronounced stillness.

What had this phenomenon been? An extraordinarily strong phosphorescence?

Some claimed that the light had climbed the vessel's sides like dust and had flowed down over the ship. The captain grumbled something about the very powerful searchlight of a warship, which had passed its rays across the *Bojador*.

The officer of the watch kept shaking his head thoughtfully. When he saw Burns quietly leaning on the rail, a half-mistrustful, half-wondering look fell askance on the Englishman.

Burns kept away from the crowd. A dim suspicion was forming in him—a suspicion of the connection between the luminous cloud of that sultry night in Yucatan and this phosphorescence which did not come from the ocean. Through narrowed lids he had observed the shadows of the stacks in the moment when the ship was flooded with light. They had been extremely short, like those cast by the sun overhead at noon. The inexplicable light had not come from below but from above—out of space!

### A Fresh Surprise

NOBODY thought of going to bed. The excitement of the passengers of the *Bojador* reached a still higher pitch because of a further episode which added to the tension of their nerves.

The captain had not put down his telescope. He kept scanning the horizon where the pale light of dawn was just beginning to appear. Then he perceived a dark dot dancing on the waves far ahead in the path of the ship. He was just trying to focus the dot more exactly, when the lookout's cry sounded over the deck: "Wreck in sight!"

Then followed the giving of the direction and the apparent distance away. The crowd of excited passengers began to move again. A wreck in sight! A new adventure not readily experienced every day!

The *Bojador* steamed nearer. After ten minutes the naked eye could distinguish a dark extended mass that seemed to be floating on the water.

"The thing looks like a submarine afloat on the surface!" remarked the captain. "But why don't the fellows have lights? It's incomprehensible!"

The passengers standing near had caught the words, and now conjectures went from mouth to mouth: "Submarine—defective—used up—crew dead—scurvy!"

Excitedly they watched the maneuvers of the *Bojador*. The engines stopped, while the propellers turned a few more times in slowing up. For a while the steamer continued forging ahead; at last it came to a standstill, and the low waves gently lapped against its high sides.

Orders rang out from the bridge. In a few seconds two motor launches were lowered and brought to the ladder. The officer of the watch had charge of the boats. With some hesitation he had permitted Burns to take part in the trip of investigation. In the hurry he had not been able to prevent some other passengers also who desired a sensation from getting in with the crew.

The darkness had meanwhile lifted enough for the wreck to be seen even from the low boats, and for the proper direction to be kept. Burns stood in the bow of the first boat and gazed steadily ahead. His ideas shifted about in confusion, causing him a painful headache.

Huitaca! The phosphorescence! This wreck! It seemed to him that there must be some connection between the events of this mad night. But as soon as he tried to establish logical relations between them, his half-conscious reflections faded away into nothing.

He called himself an unnerved fool and undertook to think no more, but just to wait. But Tuxtla's cry kept ringing in his ears: "The morning star! I am burning!"

Violent calls and signals from the *Bojador* interrupted his reflections. Even the steersman turned and gazed back at the dark mass of the ship. Certainly the noise was intended for the boats. Something was being shouted to them. Burns put his hand to his ear. Disjointed words came over the water.

"Phosphorescence!—East!"

"Aha! The searchlight is at work again!" said the officer, with a look at Burns. "Let it, for all I care! Forward!"

The motor started again. The scientist's eyes were fixed on the wreck, the cigar-shaped hull of which was now plainly recognizable.

"Well!" remarked the officer in surprise. "That thing has outriggers."

In fact, now and then, at the side of the hull a darker edge appeared from the waves, like the outrigger of a Malay proa which was pitching considerably. As they went along Burns thought he saw something moving on the back of the completely enclosed boat. It seemed to him that he saw two men climbing from the stern to the bow. But when the officer hailed the unlighted vessel, there was no answer. Likewise a second call from close by died away unheeded. Nothing stirred in the apparently uninjured steel body.

The motor launches slowed down and went cautiously and slowly in an arc about the strange vessel. It was easy to see that the supposed outriggers were nothing but rather small airplane wings, which by lying flat on the water lessened the pitching of the hull.

On the side of the steel wall five letters shone in

brass. "V-E-N-U-S!" Burns spelled out and started in surprise.

On board the *Bojador* the course of the two boats was carefully observed. The captain cursed the loss of time caused by this episode. The passengers, chilled by the morning cold, were lounging around on deck and were bringing the troubled commander almost to despair by their unceasing questions. Nobody obeyed the requests of the officers that they go to their cabins.

Patson, vainly seeking his chief and Isabella in the confusion, was leaning on the starboard rail, chewing a cigar that had gone out. The fat Dutchman had stuck to him. He had followed the Irishman about like a shadow, doubtless in the vague hope that through Patson he might come closer to the beautiful Mexican girl.

"I'm very certain," he chattered in his greasy manner, "that the lady is in one of the boats. I saw her standing at the stern in her charming bright coat. I'm not mistaken. I always have a good eye for the ladies. Ha, ha!"

He gave a coarse laugh. His red-rimmed, pale blue eyes roamed from the boats, the lines of which were just visible, to the wreck, and from it to the bland face of Patson, always cheerfully beaming and not in the least betraying the annoyance of its possessor.

The fat man jovially slapped the silent Irishman on the back. "What do you think of the whole business, anyway? The searchlight our good captain mentioned is all poppycock, isn't it?"

Patson wheeled suddenly around. "I can give you the exact facts, sir!" He seemed to hurl the words right into the face of his questioner. "It is the *"serpens marinus!"*

"What's that?"

*"Serpens marinus!* The giant sea serpent! You know there is an immense water snake in the Atlantic. Christopher Columbus met it. Don't you remember? This monster is three thousand years old, six hundred meters long—if it hasn't grown meanwhile—and at times it radiates from its back fins a powerful fluorescence, just from rage, because it can find no worthy mate on earth."

"And you believe. . . .?" stammered the merchant in horror.

Patson nodded seriously. "Sure!" he said in a deep voice. "The wreck over there is nothing but the tip of the tail of the sea monster which has just dived. They say this beast is accustomed to devour ships like the *Bojador* for breakfast! Now don't ask any more questions, but make your will! See! The serpent is just coming up again!"

Patson pointed to the east. In fact, the sea was again gleaming with the mysterious light.

The Dutchman was about to retire, insulted, but the excitement of the night had so confused him that he really did not know whether to take the fantastic story of the Irishman seriously. He remained beside Patson.

Cold sweat ran down his back when he saw the centre of the light race over the sea and speed toward the *Bojador*. He clung to Patson's arm, while his glances wavered between the wreck and the circle of light.

The launches had just circled around the dark body of the supposed submarine, when for the second time a blinding light flooded the ship. This time it remained for several seconds, and the few who ventured to look found the surface of the ocean bathed in weird light for a long distance around, as though the sun were at the zenith.

## The Missing Boats

THE beam of light seemed to have come to rest close to the wreck and to have collected about it. The *Bojador* again sank into the grey light of early morning. But the steel hull of the wreck shone brilliantly, and the surface of the water illuminated about it became narrower and narrower. At last it was confined to a circle not over thirty meters in diameter, which radiated such intense brilliance that the burning and smarting eyes could not make out any individual object within the ring of light. It seemed as though the sea about the wreck had become white hot.

Suddenly there was a roar, which became louder, as though a hurricane were coming. A sharp wind blew over the deck of the *Bojador* toward the centre of the glow.

Over there the sea was becoming violent. Geysers spurted up and plunged down, spring tides (as it were) lashed the water into columns of waterspouts. On the *Bojador* a tumult began, and the engines started.

Pale as death the captain leaned over the rail of the bridge. His trembling hand went through his grey hair, and he stared in stupefaction at the frightful spectacle of supernatural powers.

Cries rang out, half stifled by the storm—the cries of human beings in mortal need! The boats! What had happened to the boats?

A terrible crashing was heard above the thunder of the storm and the masses of water. There was a crackling as though a battery of machine guns were sowing death and destruction about.

From the stormy waves shot out a spray of sparks; a flaming line rose into the grey morning sky, then vanished like a shooting star.

All at once the circle of light vanished from the sea. The noise ceased. The sea slowly grew calm, and breaking day shone over the waste of waters. The wreck had disappeared.

The whole phenomenon had vanished like the spectre of a nightmare, and only the occupants of the two capsized boats, struggling in the water, proved the sad reality of the weird event.

Quickly the luckless ones were fished out and taken on board. The entire crew was saved. It was harder to determine whether any passengers were missing, since nobody knew exactly who had taken part in the trip without permission. There was no other course than to call the roll of the entire number of passengers.

But when it was done it was found that no one answered to the name of Isabella de la Cosa.

Several occupants of the second boat asserted that the Mexican girl was the last to jump into the boat as it put off. But when the burning tornado had set in, each one had been too busy saving himself to think further of the girl.

During the entire forenoon the sea around the place of misfortune was searched. Various bits of clothing, life preservers, and the like floated on the warm water, but there was no trace of the girl. Isabella had doubtless been drowned.

With a heavy heart the captain at noon gave up the hopeless search, and the *Bojador* continued its course across the Atlantic, toward the Canaries.

Patson anxiously watched his chief, who sat sunk in thought by the stern of the speeding ship, staring with empty eyes at the place that had swallowed up Tuxtla.

"Sir William," said Patson softly, "you ought to go to bed and rest, after such a frightful night. Your

whole body is trembling, and—" he hesitated a moment—"you can't alter the sad fact."

The archaeologist ground his teeth as though in a fever. "Patson," he said wearily, "do you believe that she is dead?"

The assistant looked silently away.

Burns seized his hand. "I know—Tuxtla is not drowned. I still have the capsule of bone. I shall find her again."

After a brief pause he arose. "Let's go to breakfast!" he said.

A fearful idea struck Patson to the heart as he led his pale chief and friend into the cabin. Inexpressible pity seized him—pity for this man who had saved from the night of horror his body but apparently not his mind.

## CHAPTER XI

### A Belated Guest

"IT'S getting worse and worse, Buddy! Worse and worse, and there's no end in sight!"

Angrily Lord Kingsley, General Secretary of the London Archaeological Institute, threw the rustling pages of the *Times* on the table. His slender fingers drummed nervously on the carved arms of his wide chair.

"What's getting worse and worse?" asked Buddy carelessly, without lifting her blond head from her embroidery. Her slim, nimble fingers moved rapidly over the soft cambric.

Lord Kingsley leaned far back and looked up at the colored circles of light cast on the ceiling by the mosaic shade of the great table lamp.

"If it keeps on this way," he continued, wrathfully, "there soon won't be heads enough to work up all the discoveries that have rained down on mankind for months like a hailstorm. Already it's not enough for this Swabian to dig up twenty new planetoids every day, to upset the Laplace theory of creation, the way one discards an old glove, to dictate the weather predictions to the weather bureaus, and God knows what else! No—he has to take a hand in paleontology, to mix it all up. The fossil bones he lately dug out of the ice on the moon have actually turned out to be manlike skeletons—pre-Noachian types with a developed hand, half-erect carriage, and the habits of a reptilian mammal. It's—it's simply horrible, and there's unfortunately no doubt about it! Korf doesn't announce hypotheses—he merely gives out facts! Nothing fits any longer! Some day he's going to give an absolute proof that man is not descended from either the ape or propliopithecus, but that he was floated over from the Milky Way! What's all this going to lead to?"

"But father! This man is affording the greatest services to mankind. Doesn't he reveal old errors, doesn't he point out new paths to lead eventually to long sought truths? He is serving science as no other before him has ever done!"

During her speech Buddy's blue eyes left her embroidery and gazed under the lamp at her father, in surprise and reproach. The full light fell on her beautiful face, which was slightly colored by her zeal, and colored flecks of light played in the luxuriant curly hair which seemed about to slip from the knot at her back.

"He serves science, does he?" repeated Lord Kingsley grimly. "Yes, in his way! He throttles it, entirely uproots it, in order to put another science in its place—his own! The success of this Swabian has gone to his head. He's suffering from megalomania and will soon think he is the Lord!"

Buddy was startled, because she had never seen her father so angry—and unjustly, too, it seemed to her.

"What are the astronomers of to-day? Scientists? Bah! They are calculating machines, with sums set before them like schoolboys. And the observers? And the meteorologists? It is to laugh! Nobody dares open his mouth without guidance from 'up there.' The greenest freshman turns up his nose at his professors and gets his science from the newspapers. The public has gone mad. Is it really all nonsense, everything that has been investigated, thought out, and calculated since Pythagoras? It actually seems as though we should all have to go out of business, unless we want to be lowered to the rank of workmen and assistants of one individual."

"But Mr. Nielson spoke very differently about August Korf this afternoon, father!" Buddy ventured to put in timidly. "The head of the Lick Observatory was clearly enthusiastic about the rediscovery of Halley's comet, and—"

"Child, you speak according to your understanding. Of course we are all enthusiastic. The grandeur of the revelations is incontestable. But in his heart my good old schoolmate Nielson is as deeply concerned as I am about the great danger that threatens science."

"Father, aren't you confusing science with the scientists?" Her face showed an almost imperceptible smile.

"Damnation!" thundered Lord Kingsley. "What nonsense you are talking, girl! Just kill off all the professors and experts, and then where is your science? It will look just like some of the lecture rooms of Cambridge that have been almost empty for months, because the stupid students no longer want to fill their precious heads with knowledge that they think is all foolishness."

Buddy arose. "It's ten o'clock, father!"

### Buddy

SHE noiselessly put away her fancy work, cleared up the tea set, and folded the newspapers.

For a while Lord Kingsley looked on. Then he also arose. His shriveled bent figure cast a long shadow on the figured carpet. "I'm going now, darling!" he said, hastily touching the pure brow of his daughter with his lips. Then he left the room slowly.

Buddy opened a window. Across the warm summer air came the endless noise of the metropolis, formless and monotonous as the dull notes of the frogs.

She took out a paper. For the tenth time she read the few lines, so important to her:

"——And if I connect with the steamer *Bojador* in Havana, I shall be in London again on Friday the seventeenth of June. I have so much, so infinitely much to tell you—"

"William!" whispered the girl and pressed her soft lips to the paper. "Four days more—four long days!"

She knelt by the window resting her head on her arms and sank into blissful fancies. The clock by the fireplace busily ticked off the moments. Second after second flew into the past. Then suddenly the doorbell rang through the house with an unpleasant startling tone. Buddy jumped.

Steps shuffled down the stairs and the lock opened; then followed a soft murmuring of voices which could not be understood. The belated guest seemed unwilling to be sent away and addressed old John in great

haste, like one who has the police at his heels.

Buddy stepped into the upper hall. "What is it, John?"

A powerful masculine voice quite drowned out the servant's feeble reply. "Please help me, Miss Kingsley! I must see Lord Kingsley tonight. The hour is unusual, but it is necessary! Everything depends on it!"

Buddy pressed her hand to her wildly beating heart. This voice? Was it possible?

"William!" she cried. She stopped and improved it quickly to: "Sir William! Is it really you?"

He had already very simply pushed old John aside and was now standing before the confused girl, after a mad rush up the stairs.

"This surprise, Sir William! I thought you were still on the Atlantic."

Burns did not heed the girl's joy. He did not see her eyes shining with happiness.

"May I venture to ask Lord Kingsley for an interview?"

"I will tell father at once, Sir William."

In a short time the insignificant figure of the peer came into the room almost lost in his immense dressing gown.

"Welcome to London, my dear young friend!" he cried from the doorway. "I am greatly surprised to see you here so soon!"

"A special event compelled me to make the greatest haste, sir. I left the Portuguese steamer at the Canaries, took a motor ship to Gibraltar, and came from there by airplane. I arrived an hour ago."

"It is charming of you to make your first visit to me!" said the old man with a mysterious smile.

Buddy curled up in the corner in an armchair and kept her eyes on the young scientist. How strangely he had changed! What sunken cheeks! How nervously his nostrils quivered! How hastily he spoke, as though every moment were precious! Was this troubled, anxious man actually her William? What could have happened to him? A wave of pity swept over her. She longed to stroke his hand. She had pictured the meeting so very differently!

Lord Kingsley sat down. "Won't you tell me, my dear Burns, the nature of this event which compels you to speed up your trip in such an unusual manner and gives me the pleasure of your visit tonight?"

Burns paid no attention to the reproof. "I'll tell that later, sir!" He cast a troubled glance at Buddy. "First let's come to the vital point! I have to go away on urgent private business and must request a few weeks' leave."

Buddy grew pale. A tear stole from between her lashes.

The peer elevated his eyebrows. "I understand you less and less, my dear fellow!"

"Mr. Patson is coming on Friday and will give you all the reports. He has full information and all the plans. My presence won't be needed."

"But where do you want to go?"

"That depends on the information I hope to get from you, sir!"

Amazed and somewhat piqued the old gentleman leaned back. "How can I serve you, Sir William?"

"To put it briefly, sir, what does the world know—and what do you know—about August Korf?"

The peer bent forward with interest. "What have you to do with the Swabian?"

"Perhaps nothing! But probably very much! You know I was buried in the forests of Yucatan for nearly a year. I seldom saw a newspaper, so I am only slightly informed about the further development of the Korf Space Ship Company, the founding of which made such a stir shortly before my departure."

"Your interest in these events seems to be so urgent," replied Kingsley, who was unable to understand the behavior of the successful archaeologist, "that I must probably assume special reasons for it."

"Surely, sir. This interest was aroused in the middle of the Atlantic by a frightful occurrence. I could learn but little on the steamer. The papers, which I got in large quantities in Teneriffe and Gibraltar, gave very contradictory accounts, and of course presupposed a knowledge of what had happened earlier. I could not make it clear to myself and hurried here as fast as possible."

### The Space Ships

"WHAT I can tell you, my dear Burns, is not much. The Korf Company loves to involve itself in secrecy. The fact is that there are already eight space ships constantly making voyages, partly to investigate the moon, partly to discover possibilities of improvement. These ships take along specially constructed telescopes, admitting of almost any desired enlargements, since in space there is no loss of light, because there is no air. You can imagine what an amount of new observations flooded the world! The smallest space ship is far superior to the most efficient observatory on earth.

"Simply to cite a few of the new discoveries. . . . The orbits of most comets have been satisfactorily determined as very extended closed ellipses. Jupiter has not nine satellites, but thirty-four. The moon is surrounded by a shoreless sea of ice, full of yellow iron oxide, and in the ice have been found traces of extinct plant and animal life. The planet Mars has been found assuredly not to be inhabited by rational beings—a discovery which brought an abrupt end to this old controversy. Venus has a tiny little satellite—"

"Has Korf already been on Venus?" interrupted Burns, excitedly.

"No! Up to the present time the trips have been only between the earth and the moon. But very likely the first interplanetary voyage is not far off."

"How do the space ships look, sir? Are there no photographs of these ships?"

"Not of the newest rockets! Korf has become very cautious. They are described as closed steel torpedoes with little airplane decks—something like submarines with wings, from eight to more than one hundred meters in length. They vary fundamentally from the type of the *Geryon*. Korf no longer builds in such huge dimensions."

"And how does a rocket ship start?"

"They seem to have given up the runway. So far as I know, the ships rise exclusively from the water, just like very powerful airplanes! Only they are not driven forward by a propeller but by the expulsion of explosive gases."

"Does it look as though a little comet, spitting out fire, were going toward the sky?"

"Yes, one might say that!"

Burns sprang up in excitement. "Now I am sure! It was a space rocket!"

The peer gazed at him in astonishment. "You met a space ship? That's interesting. Where was it?"

"West of the Canaries we found an object on the ocean which we took to be a damaged submarine, until

it shot up before our eyes and disappeared."

Kingsley's interest increased. "It is news to me that these rockets start from any place besides Lake Constance. Do tell me about it!"

In a few short sentences Burns related the meeting on the Atlantic. He did not mention Tuxtla, however. When he had finished, Lord Kingsley jumped up and walked about the room in excitement.

"The light came straight from above, sir. Don't you think it was also connected with Korf?"

Kingsley looked at the clock. "Past eleven!" he murmured. "Perhaps we can still reach him. Buddy, just call up Claridge's and see whether Mr. Nielson is still up."

Buddy obeyed, and in a few seconds Lord Kingsley was holding the receiver to his ear.

"Hello—Lord Kingsley—yes, if you please—I'll hold the line." He turned to Burns. "Do you know Mr. Nielson, Sir William? No? He is the famous investigator of the moon, the head of the Lick Observatory in California. He was an old schoolmate of mine. He happens to be in London just now, to attend the Astronomical Congress at Greenwich tomorrow. It will be an interesting matter and will finally clear up what this Korf is—"

Then he stopped and spoke quickly into the mouthpiece.

"Good evening, my dear fellow! I am surprised that you're still awake. Do you want to snip off a bit of your life? Well, old friend, I hope you don't miscalculate! But, jesting aside, I have a great favor to ask of you, Nielson! Just take a taxi at once and come over to my house! Yes, right now! You'll get some material for the meeting tomorrow. Good-bye!"

Kingsley turned again to his guest. "He's coming right over. I'm curious to know what he'll say about it."

## CHAPTER XII

### The Obsidian

FOR a while there was silence in the room. Burns sat broodingly at the table. Occasionally he looked over at the corner where Buddy was nestling among the cushions, and his glance every time met her anxious blue eyes directed at him.

He was fond of the clever, beautiful girl, and it seemed to him that he owed her an explanation, that he must lift up her white chin with the little dimple in it and whisper in her ear softly, very softly, "Don't worry, little Buddy! Everything has got mixed up, but it will be all right again!"

But then Buddy's sweet blond face vanished from his sight. Black hair waved above glowing panther eyes, a brown hand pointed into the distance, and a low voice said with the cooing of a dove, "Do not seek me, sir, and then you will find me!"

Lord Kingsley slapped Burns on the shoulder. "In twenty minutes Nielson will be here. Won't you make use of this brief interval to explain to me at last what all this means?"

"But I did tell you, sir—"

"Nonsense, my young friend! You can't fool me. Your experience on the Atlantic was doubtless very interesting, but not sufficiently so to make Sir William Burns rush off, head over heels, leave his work in the lurch, turn night into day, and take a sudden private journey which can't be put off. I know you too well and think too highly of you to refuse to accept a very special reason. Is it to remain a secret?"

For a long time Burns hesitated. Then, in sudden decision, he put his hand in his pocket and drew out a capsule of bone, as large as his hand, which he placed on the table.

"Do you know, sir, what that is?"

The capsule had been cut open longitudinally. With interest Kingsley lifted the lid. In the thick-walled lower part lay a bright blue stone, polished smooth, and the size of a hen's egg. It was almost transparent but not really glassy, and had a general resemblance to amber except in color.

The peer raised it to the light. "Heavens! That might be an extremely beautiful and uncommonly large turquoise," he remarked, with a questioning look at Burns.

"At first that was my opinion, too, but it is evidently false, if the stone is viewed by daylight. I take it to be an obsidian, one of those rare minerals of which it has been assumed that they do not originate on earth but have fallen upon our planet from space, as meteors. A stone from the moon, then, as they call these cosmic foundlings!"

"An obsidian of this bright sea blue color?"

"I surmise that the stone has been colored in some way with cobalt. Its age can be reckoned in thousands of years. The enclosing capsule of bone, which I had to cut with a diamond, is made of a mammoth's tusk by some process no longer known to-day. Have you taken a good look at the stone, sir?"

Lord Kingsley set his horn-rimmed glasses on his sharp nose and bent over the blue obsidian. "I can discover nothing further especially notable about it," he said hesitantly.

"Please touch it!"

He obeyed the request, took the stone in his left hand, and passed the fingers of his right over the rounded surface.

"It seems to me as if there are rougher places on one side. Or am I mistaken?"

Burns silently took the stone. He walked away from the lamp into a half-dark corner of the room. With a few short strokes he rubbed the stone on his coat sleeve and then quickly held it up. "What do you see now, Lord Kingsley?"

The old peer clutched the arms of his chair. Buddy cried out and stared in amazement at the phenomenon. In the dark corner a sign flamed out in fiery red. As though painted in lines of fire, it stood out above the head of the archaeologist, plainly recognizable as a circle resting on the cross-beam of a cross.

A strange excitement seized the peer. "What is that?" he cried.

"Don't you recognize it, Lord Kingsley?" sounded the solemn voice of Burns. "It is the eternal sign of life, the precursor of the cross, which has outlasted nations and kings, wars and revolutions, ages and epochs! It is the symbol of the demonic powers of nature, which the intellectual man of to-day, freed from his bonds with the earth, can no longer understand."

Slowly Burns walked back to the table.

"It is the old Egyptian sign of life—the hieroglyphic of life!" said the peer softly.

"This stone comes from the graves of Uxmal in Central America, sir!"

The old man arose. "My congratulations, Sir William! This find is of great significance. It constitutes one more link in the chain of proof that the apparently rootless civilization of the Egyptian Pharaohs and the

Central American civilization of the Aztecs are connected and perhaps have a common root."

"I am on the trail of this root!"

"How so?"

"There is a strange thing about this stone from the moon. One does not wrap up a simple jewel in an almost impenetrable armor of mammoth tusk. It was passed on from generation to generation, through a countless number, from mother to daughter. And the last owner—" he hesitated a moment "—I know her. The properties of this stone indicate an astounding degree of physical and chemical knowledge. Not merely the fact that this stone—like amber—is electrically charged by rubbing must have been known to the artist in primitive times, but he must also have possessed means of treating the surface in individual points in such a way that they change color like certain animals under the influence of the electric charge, from the blue of the water to the burning red of fire. What was the use of this stone thousands of years ago? Was it a talisman which in the hoary past gave power to kings and priests?"

"You have a great imagination, my dear Burns!" said Kingsley, who had slowly recovered from his terror and was now ashamed of his excitement. "You might well become a novelist! But at any rate the find will adorn the British Museum."

"Probably, sir! But first I need it myself."

"What for?" asked Kingsley, with a forced laugh. "Have you set yourself the task of establishing or even testing the mysterious powers of this—this talisman?"

Burns nodded. "Just that, sir!"

With a mixture of irony and paternal anxiety the peer looked searchingly into the troubled face of the young scientist.

"And your hunt for the secret of the stone from the moon takes you to Korf?"

"You may think me crazy, Lord Kingsley," replied Burns, bluntly, "but—this sign on the obsidian, which signifies the tree of life, the hieroglyphic of life, and is the astronomical sign of the planet Venus as well—it seems to me that it points out into eternal, infinite, cosmic space. I know the idea appears fantastic and baseless, but I have seen some tests of the incomprehensible power of this bit of cosmic rock!"

"The devil take that reasoning!" cried Lord Kingsley rudely.

A sigh from the corner where Buddy was sitting made the two men look around. "What's the matter, darling?" asked Kingsley over his shoulder.

"Nothing, father! I'm simply so—tired!" replied Buddy in a tortured tone, as though a world had just been destroyed in her—a world of secret happy hopes.

## CHAPTER XIII

### The Satellite of Venus

"MR. NIELSON!" announced the servant, opening the door wide. An elderly, venerable gentleman entered. His clever face was almost covered from view by his immense grey beard. His trembling hand, with skin like parchment, rested on a stout stick. But the astronomer's voice had a fresh and almost youthful ring as he greeted those present with a cheery "Here I am!"

Kingsley took scant time to introduce Sir William Burns to the old scientist, then went at once to the point.

"A new observation of solar reflected light, Nielson! Listen to what Sir William has experienced!"

The aged astronomer listened attentively to the story. Then he thoughtfully stroked his long flowing beard and said slowly, as though speaking to himself:

"It agrees. It is the eleventh observation in the course of six weeks, and it most clearly supports my theory."

"May we hear your theory, Mr. Nielson?" asked Burns respectfully.

"Thus far these light rays have been seen in very different degrees of intensity and at points on the earth very far apart—among others, over Alaska, the Sahara, the plateau of Tibet, the North Cape, Central America, South Australia, and Northern China. Public opinion in civilized countries considers these phenomena to be stray light messages from space ships, which are known to be in constant communication with Friedrichshafen during their voyages by means of light signals."

"And do you consider this opinion incorrect?" asked Burns with a smile. He was thinking of the "light signals" which had changed the peaceful sea into a storm.

"I think it at least improbable! First, it is remarkable that these signals are observed only in outlying sections of the earth, either thinly populated or without inhabitants. This suggests a certain intent. Second, their intensity is sometimes so great that they could originate only in immense concave solar mirrors, the surface of which is to be measured by the acre. Such mirrors are inconceivable in space ships. Third, we must take into consideration that the intensity of the light evidently has some definite relation to the local time of the place in question. Neither during the daytime nor at midnight has this reflected light ever yet been observed. The weakest phenomena appear in the hours shortly before or after midnight, the strongest at the times of sunrise or sunset. The amazingly powerful effect of which Sir William just told us was observed in the dusk before dawn, was it not?"

"That's correct," confirmed Burns, who suddenly thought again of the gleaming clouds of that sultry night in Yucatan. "But I don't yet see the connection. For the assumption of a constant source of light, to which you seem to be pointing, runs counter to the widespread observation over the whole earth."

"To understand the connection, it is necessary to be acquainted with one further fact," said Nielson in professorial style, almost solemnly. "For a long time I have devoted myself almost exclusively to observing the paths of Korf's space rockets. Unfortunately these tiny bodies, flitting about in infinite space, cannot be seen at all as luminous dots unless their surface possesses a sufficient degree of reflecting power, not unless they are outside the earth's shadow in opposition to the sun. These favorable conditions seldom come together with clear transparent air, and we must content ourselves with determining a comparatively small number of individual points. In most cases, however, the observations have been sufficient to enable us to calculate the paths. Putting our results together, we obtained the following picture:

"First, none of the ships has as yet gone farther into space than about thirty diameters of the earth, which corresponds to the distance of the moon.

"Second, by far the greatest number of the voyages have the moon as their goal.

"Third, the velocities are very different, which sug-

gests continual experimentation and improvements in the ships.

"Fourth, giant ships of the type of the *Garyon* are no longer in use, with one single exception.

"Fifth, about twenty per cent of the voyages observed are limited to encircling the earth at various distances. These ships appear to serve purely geographic studies.

"Sixth, one of these last mentioned ships, which is considerably larger than any of the others, has for months been circling about the earth in a constant, unchanging gravitational orbit, without having made any descent in the meanwhile."

Burns leaned far forward. "Is this done voluntarily or is it forced?"

Nielson smiled. "If the orbit of this—let us say, stationary—space ship owes its origin to chance, then chance has certainly worked to perfection."

Lord Kingsley breathed hard. "This Korf is in league with Satan!"

"This space ship" went on Nielson, "moves in an orbit having a radius of ninety-five thousand kilometers,* passing over the two poles of the earth and having its surface perpendicular to the sun's rays. That is, the orbit is always over the shadow line of our sphere, and the ship is always vertically above the points of the earth for which the sun is just rising or setting. Since this ship to make its complete course from the north pole to the south pole and back again requires exactly seventy-eight hours, and the earth in this time revolves three and a quarter times on its axis, it is above every point on earth within the span of thirteen days.—It commands the entire earth from pole to pole."

Kingsley interrupted violently. "Commands? With what? With artillery? How is that comprehensible?"

Nielson lifted a protesting hand. "With what? With perfectly harmless solar rays, which can be collected in great parabolic mirrors and concentrated on any desired spot on earth. Our young friend, to his cost, has had a little experience of this game."

### Burns Decides

FOR several moments no one spoke. Lord Kingsley gritted his teeth. Burns drew mazy figures in the ash tray with a pencil. His thoughts seemed elsewhere.

"How can one communicate with this stationary space ship, which circles about the earth like a second moon?" he asked finally, tired of hiding his excitement.

"By flashes of light! The smallest alternations of light must be visible in the powerful telescopes of the space ships. Quite often terrestrial observatories have tried to get into telegraphic communication with Korf's ships. But there has never been any answer. To be sure, the Greenwich Observatory has now and then picked up a few messages which were sent to Friedrichshafen. But they were always coded according to a very complicated key which up to the present has defied all the assaults of the mathematicians. Besides, it is probably changed every day."

Sir William's decision remained unchanged. "I thank you very much for your highly interesting conclusions, Mr. Nielson. Early tomorrow I shall start for Friedrichshafen."

There was a sarcastic look on the astronomer's face. "There you will find many colleagues and will help to increase the number of those who look on from outside, Sir William."

"I have a special mission to fulfil," replied Burns. "They will listen to me."

Nielson shook his head doubtfully. "I wish you success in this—mission!"

Burns arose, as though he wished to set out at once. But he stood still a moment in hesitation, fumbling undecidedly in his coat pocket. Finally he drew out a crumpled newspaper sheet.

"Please allow me one more question, Mr. Nielson! The day before yesterday I read a report of the discovery of a satellite of Venus. Lord Kingsley had also mentioned this earlier. Surely you know about the matter."

This question seemed painful to Nielson. In evident discomfiture he tugged at his beard.

"I must confess to you, Sir William, that this new announcement, which at first glance is not particularly startling, and which probably has had hardly any special attention directed to it, seems to me the most puzzling of all Korf's surprises. I don't know what to think of it."

Burns stepped back a pace. His pulse beat quicker. Even Lord Kingsley listened eagerly. "You never told me anything about that, my dear Nielson!"

The astronomer grunted morosely: "I don't like to speak of problems for which I know no explanation."

"It struck me," put in Burns, "that this satellite was described as actually dwarfish. In the report it spoke of a few meters in diameter."

"These estimates are probably extremely doubtful, and are in themselves less interesting than—," he hesitated.

"Than what?" asked Burns eagerly.

"Than the very existence of this satellite. Where did it come from?"

"It is probably nothing but a meteor captured by Venus."

"That is simply impossible, Sir William! All the planets from the earth outward to distant Neptune can catch moons for themselves. But the two planets next the sun, Mercury and Venus, cannot do so. Simple calculation shows that. A body plunging toward the sun from the depths of space has already on reaching the orbit of Venus a velocity of fifty kilometers* a second. Tiny Venus is powerless in the face of such speed. Its powers of attraction can doubtless divert the passing meteor a bit but can never force it into a closed ellipse. There is no doubt about it."

"But Venus must have acquired the satellite somehow, unless we want to discard Korf's observation as an out-and-out deception."

"More than a hundred years ago a noted builder of telescopes thought he had discovered a satellite of Venus, and several very earnest scientists even set out to calculate the orbit of the new heavenly body. But since in the meantime this discovery had never been confirmed, it was forgotten. It was thought to be simply an error of vision. But now Korf's figures agree exactly with these old ones. The satellite of Venus exists beyond a doubt!"

"My dear Nielson," said Kingsley, "isn't it possible that this satellite originated in the vast number of tiny planetoids which whiz by thousands around the sun?"

"No! These little planetoids are limited exclusively to the space between Mars and Jupiter. Only two of these little bodies, Eros and Albert, extend their orbits

* About 59,000 miles.

* About 33 miles.

nearer to the sun than to the orbit of Mars. But even they are so far from the sun that any fall toward it, such as might perhaps be caused by impact between them, would reach such a final velocity as would overcome the attraction of Venus. In short, a satellite of Venus could only come from the space between the orbits of the earth and of Venus, for only there would the velocity of the free fall at the orbit of Venus still be within the limit which would decide the fate of the little body."

"And the space within the earth's orbit is empty?"

"It is full of meteorites speeding from great distances to the sun,—through passengers, so to speak. But it is empty of gravitating planetoids, from the ranks of which alone the satellite of Venus could originate. Even Korf has been unable to find a single one of these little planets in it."

Burns showed signs of great excitement. "Then this moon of Venus can only have come from our earth!" he cried.

"And thereby it forms an unsuspected field for archaeological research!" added Lord Kingsley. Nielson slowly continued:

"If only he does not arrive too late! The days of this little star are numbered. Its period of revolution is only one hundred and five minutes. In three-quarters of an hour, then, the satellite races around Venus. According to Kepler we may calculate from this a mean distance of 6300 kilometers* from the centre of Venus. If we subtract from this the radius of Venus, there remains only a matter of 215 kilometers** separating this little body from the surface of the planet. That is, it is already touching the outside of the atmosphere which apparently surrounds Venus as it does the earth.

"The little satellite is therefore in extreme danger of being slowed down by air resistance. That would necessarily result in its fall to the surface of Venus. Any day may bring the catastrophe."

The morning was almost at hand, when Burns left Lord Kingsley's house. Blindly he hurried through the dimly lit streets, as though chasing a phantom.

Tuxtla—Huitaca—Venus——!

Behind him the mist shut in the house in which blond Buddy was tossing sleeplessly on her pillow.

## CHAPTER XIV

### In Space

SLOWLY Tuxtla came back to consciousness. The veils lifted little by little from her mind. The confused dreams vanished, and her senses awoke.

She felt a soft bed beneath her. The air was biting and dry, and she was tormented by thirst. Though her eyes were closed, she had a definite sensation that it was still night.

She raised her lids slowly and looked up into black darkness. Yet around her it was not dark. Somewhere a light was gleaming. It seemed as though she were lying in a lighted room without a ceiling, with a starless night sky arching overhead.

She felt along the edge of her bed. There was a thin mattress and on it some soft covers. In bewilderment she sat up. Although all her limbs pained her, she felt free and strong, as though some oppressive weight had fallen from her. Gazing about, she saw that she was in a tiny little room with primitive furnishings, similar to a cabin on shipboard.

Through a circular porthole at the side the yellow sunlight was streaming in. A long, sharp-edged reflector was fastened to the opposite wall. The light was so bright and dazzling that it pained her eyes. And yet, the cabin seemed dark. The shining window frame and the reflector on the wall seemed to be floating in darkness, freed from their physical characteristics.

For a while Tuxtla remained sitting listlessly on the edge of the bed. Then she noticed that she was wearing men's clothing. She got up and walked to the window with uncertain steps. Dizziness seized her. At every step she tottered and threatened to fall forward. She clung to the recess of the window and looked out through the thick, tight-fitting glass.

All around was a deep black sky, spangled with strangely bright stars which did not twinkle. It was night, assuredly night! Yet far down on the horizon the sun was shining in a supernatural brilliance.

Tuxtla waited, but the sun did not set. It stood still in the sky, and the army of shining stars moved quickly about the glowing ball in even courses.

Tuxtla rose on her tiptoes, to enlarge the downward angle of vision. She was startled. Here too the starry sky spread out, as though she were standing over an infinite motionless spread of water in which the stars were reflected. But the reflection of the sun was missing. And down there, actually, was the thin crescent of the moon! It, too, was coursing about the sun.

Was she in a tower of such infinite height that the surface of the earth could no longer be seen? A fearful feeling of immeasurable loneliness weighed upon her. She sank to her knees and wept.

Then a soft murmur came to her ear. She listened. Somewhere, far off, human beings were speaking.

* * * * *

STEPS came near, the narrow door of the cabin opened, and in the doorway stood a man.

It seemed to Tuxtla as if she had already seen this active little figure somewhere.

"Our beautiful young guest seems to have recovered from the hardships of the unusual trip!" said the man kindly, and then introduced himself as Doctor Finkle.

Tuxtla drew back into the corner.

"Do you understand German at all, my dear young lady?"

She nodded. "Where am I?" she asked in English.

"In safety and in good keeping. For three days you have been lying unconscious, and you must be very hungry. I'll have a good dinner served at once. How do you feel?"

"Where am I?" repeated the girl, insistently.

Dr. Finkle scratched his sparsely covered head in embarrassment.

"You—you'll learn all about that later. At any rate, you're saved. You'll have to pardon the costume—" he pointed to the rough trousers which hung loosely on the girl's slender form—"for unfortunately we're not equipped to receive women, and we couldn't possibly leave you in your soaking evening dress. You would have had a fine case of pneumonia.—You needn't blush, dear child! I am a doctor and also an old man."

Tuxtla stared at the narrow face of the speaker, all covered with countless wrinkles. Slowly and uncertainly remembrance returned to her. "William!" she cried. "Where's William?"

"I don't know who William is. But he certainly didn't get drowned in that silly affair. A rather mixed-

* About 3,900 miles.
** About 133 miles.

up light-message just arrived, containing also the report of the captain of the steamer *Bojador*. A great weight was lifted from our minds. You needn't be anxious, young lady! The only person drowned was yourself. And it strikes me you're looking very healthy for a drowned person. To be sure, your life hung by a hair. It was this way:

### Finkle Explains

"YOU were in one of the boats which came over from the Portuguese steamer to pay a very undesired visit to our harmless tank rocket. Unluckily we were not yet entirely ready to start, and so the boats kept coming closer. But our remarkable telescope artist up here noticed what was going on and played the silly prank of concentrating one of the great solar mirrors on the boats, to keep them from boarding the rocket. Perhaps he also wanted to give us some sunlight for our work on the rocket. The business is not yet entirely cleared up, and the man will have an unpleasant time when August Korf returns. Naturally, when the cat's away, the mice will play. But our chief does not permit such tricks, and I shouldn't like to be in that poor scamp's skin. I guess he was well frightened at the harm he did with his instrument. The air was so heated by the concentrated sunbeams that vertical whirls of air resulted, making a sort of miniature typhoon. No wonder your boats capsized! Nobody was prepared for a heavy sea, and the rocking was very troublesome for us, too.

"Well, my dear, we nearly had your death on our consciences, and we are deeply in your debt. Of course the Korf Company will make up for all material losses. Only it's annoying that one of Korf's secrets seems to have come to light prematurely through this episode. Well, that doesn't interest you further!

"Anyway, you fell into the water. Still I don't understand why you didn't cling to the capsized boats, like the rest of your companions, instead of swimming quite a distance from the site of the mishap to our rocket. You must be a good swimmer. And, by Jupiter, if Berger hadn't chanced to look out a second before the start and noticed that a figure was holding on to one of the forward windows, you would have been torn to atoms by the starting rocket. We pulled you in at the last moment and had to take you along by force in this way.

"I judge you saw little of the flight. You were terribly exhausted, and it's a wonder you managed to stand the unpleasant pressure during the ascent.

"Yes, that's the story, and now my best wishes! Don't be too angry with us, dear child! You must recover yourself a bit here, and then I shall take you home on the next ship."

This unusually long speech had exhausted old Sam. He wiped the sweat from his brow and looked over at the beautiful brown maiden, who sat motionless on the bedstead and silently looked at her yellowish fingernails.

"My dear young lady," he said after a pause, "won't you tell me who you really are?"

Tuxtla slowly raised her hand and passed it over her eyes, as though banishing some dream.

"My mother called me Tuxtla!" she whispered, almost inaudibly.

"I beg your pardon?"

"My mother called me Tuxtla!" repeated the mestiza mechanically and monotonously, as a child speaks a piece learned by heart.

"Tuxtla? That seems to be a given name. You're from Mexico, aren't you, and were on a voyage across the Atlantic? Where were you going?"

"I don't know!"

Sam felt uncomfortable. "You don't know?" he stammered in surprise. "Well, where shall we take you?"

"To William!"

"Who is this William?"

"Sir William Burns!" explained Tuxtla, adding after a brief pause. "He was digging in Uxmal in Xlapakh."

This meant nothing to Sam. "Where does this Sir William Burns live?"

"I don't know!"

"Well, the—" The doctor suppressed a heartfelt curse. Then he took a notebook from his pocket.

"Please just tell us about yourself. I know your first name. We still need your last name, place and date of birth, residence of your parents, nationality, and so on. All right, then! I can do so damn'd little with just Tuxtla."

"My mother called me Tuxtla. She died long ago."

In despair Sam shut the book. "I shall have your dinner brought you, Miss—Tuxtla. That's the most important thing for the moment. Then I shall show you where you are. Good-bye!" He felt the cabin, shaking his head.

In the narrow passage lighted by electric bulbs Dr. Finkle ran into a man hurrying past.

"Is it something urgent, doctor?"

"Oh, it's you, Berger! Fine! I was going to look for you, but I didn't know just where to find you. Our foundling is on her feet again. But it would take the devil to understand her. What was the name of the drowned girl in the report of the *Bojador*?" Sam held Berger by the coat.

"Isabella, if I remember correctly. Wait a minute." He took a paper from his pocket. "Yes, that's right! The last words of the despatch are: 'Unfortunately one person fell victim to the waves and was drowned, a young Mexican girl named Isabella de ——' and that was all we got. The clouds over Lake Constance were so thick that nothing more came through. Well, since the lady is again possessed of her senses, your curiosity will soon be satisfied."

"It's a strange business!" grumbled old Sam in vexation. "The black-haired girl insists that her name is Tuxtla. Tuxtla! Did you ever hear such a silly name? Nothing else can be got from her. She doesn't even know where she was really going on the steamer *Bojador*. Either there is some error, or else she had a nervous collapse through fright."

"Well," laughed Berger cheerfully, "she'll soon recover her memory."

"What are we going to do now, Berger? When can we send the poor thing home?"

### No Way Out

"THAT depends on Korf. I'm sorry, doctor, that you didn't find him here on our arrival. He seems to have altered his plans for some reason, probably on account of the impending long distance flight. At any rate, he left orders for me to take over the command here and await his return under any circumstances. The tank rocket *Venus*, which brought us here, had to leave at once for the moon power plant,

and the next supply ship isn't due for two weeks. So for the present I can't get either the girl or yourself away from here. Besides this, all communication with the earth by light-signals is just now interrupted. All of Europe, including Friedrichshafen, is covered with clouds. It will be two days before we get in sight of the auxiliary station in Sydney, and the new station in the Ural Mountains isn't yet ready for us. Things ar'n't yet altogether as they should be, but they'll surely be so after a while."

"But in some way we must send the news that this —this Tuxtla or Isabella is not drowned. We can't just let the relatives of the girl grieve for her."

Berger shrugged his shoulders. "If better weather doesn't set in around Friedrichshafen, we're helpless for the present."

"Well, some one or other of the thousands of observatories on earth must have clear vision. They can't all be clouded. So let's simply flash down to the earth, or across, or up—I don't know where our planet is! Someone will notice it, all right."

Berger laid his large hand heavily on the shoulder of the little man and replied with a smile, "Dear doctor, how do you imagine it can be done? Do you think we can experiment through a hundred thousand kilometers the way we might do on a drill-ground? Our flashes can be seen on earth only through the most ultra-modern telescopes with very powerful enlarge-

The dots of light proved to be the expanded rubber suits and diving helmets worn by workmen who flitted in and out of the solar pole of the station.

(Illustration by Paul)

ment and extreme illumination, and even with these rare instruments only when they are pointed exactly at us. The orbit of Astropol is apparently totally unknown to most observatories as yet. Surely we can't flash in turn at all the observatories available and hope that just at this moment the telescope is pointed at us, that there is also at the eye-piece a chap who knows that our light flashes are signals—one who likewise knows the Morse alphabet, and who is clever enough to forward to Friedrichshafen code messages which he can't understand. You're making heavy demands on chance, doctor!"

"But can't we send uncoded messages?"

"Impossible! That mad trick with the collecting mirror was enough for me. I really have no desire to conjure up new episodes and difficulties on my own account."

In the meantime the two men had reached a room like a hall, the arched ceiling of which extended all around down to the floor like a bell. In the middle an enclosed elevator shaft rose to the top point of the arch, which was pierced by numerous thick glass windows. On one side brilliant yellow sunlight streamed in, while on the opposite side the windows lay in darkness and appeared to be covered by thick black curtains.

"Then there's nothing for us to do but wait for better weather at Lake Constance!" remarked Sam in a tone of resignation.

Berger nodded. "At any rate the shutter is kept in constant readiness, and the earth is always watched sharply for possibilities of communication. That is all that can be done at present."

Berger turned to the elevator. "I must go up again, doctor. The long-distance ship must be ready by the time Mr. Korf comes back. I'll see you at table."

The double doors of the shaft closed behind the engineer. A slight rushing and buzzing showed that the elevator was going up.

Finkle looked through the upper windows of the hall. The view kept startling him anew. Outside the hall the shaft continued to run vertically in the form of a cable, shiny and more than a meter in diameter, shrinking in the distance to a thin gleaming thread. At the end of the thread, high up on the black sky like a captive balloon on a rope, hung an immense sphere, very much flattened and with a bluish sheen on the sunny side, with many dots of light flitting this way and that about it.

It seemed to Finkle as if the immense mass must plunge down on his head in the next moment, shattering the entire hall to atoms. He could no longer endure the sight, and he turned again to the passage.

"Good Heavens!" he thought. "How the poor child will be frightened when she sees that!"

## CHAPTER XV

### August Korf

IF Sir William Burns had ever been in Friedrichshafen before, he would not have recognized the little city on Lake Constance. The quiet idyllic spot had become an industrial city, stretching far out to the east. On the northern side, where fields and meadows had formerly reached down to the shining Alpine lake, chimneys and radio towers now rose up toward the sky, and workmen and motor trucks swarmed around between the machine shops and the storehouses.

A high brick wall ran up from the shore in a curve over hills and valleys, enclosing the immense territory of the Korf Space Ship Plant. It also ran out into the lake as a wide breakwater.

Evening was settling down under heavy rain clouds as Sir William drove up to the main entrance in a taxi. He quickly got out and went up to the gatekeeper's lodge.

"May I see Mr. August Korf?" he asked in rather bad German.

The stout gatekeeper smiled condescendingly. "Mr. Korf is receiving nobody. Besides, it's already nearly seven o'clock."

Burns reflected. "Can't someone in authority give me a brief interview?" he asked. "Perhaps the head of the light signal station?"

"Tonight Station B is in use. Then you want to see Observer Grimmer."

"I don't know any of the gentlemen."

With a snort the gatekeeper put down a pad of paper. "Just fill out the application!" he said impatiently. "Your name, position, purpose of visit, and so forth. It's all printed."

Burns thought it best to accede to this demand. Perhaps Observer Grimmer might then show him the way to more influential persons. With professional seriousness the porter read the Englishman's signature.

"Are you Sir William Burns?" he asked suddenly. "Well, you ought to have said so at once. This afternoon a telegram arrived from London from the Ario—Archia——"

"From the Archaeological Institute, you mean! The Institute has announced my arrival by telegram and has requested an interview for me."

The porter took out a roughly scribbled note. "Yes, yes! A telephone message came from headquarters that Sir William Burns should be conducted to Dr. Gundlach."

"Who is he?"

"The head of the Information Service."

"Good! Have me taken to this gentleman!" said Burns, contentedly.

The porter called a boy. "Building four, room fourteen, Dr. Gundlach!"

A few minutes later Sir William stood in a comfortably furnished conference room. Almost at the same moment there entered through the side door an elderly man, whose gait and bearing showed that he had formerly been an army officer.

"Dr. Gundlach!" he said by way of introduction.

"My name is Burns," said Sir William.

He invited the Englishman to sit down and silently waited to hear what he had to say.

"First, a question, Mr.—Mr.——"

"Gundlach!"

"Thank you! Mr. Gundlach, you have information, have you not, about the adventure of the steamer *Bojador* in latitude 25?"

Dr. Gundlach regarded his guest from beneath lowered lids. "I know of the lamentable accident from the newspaper."

"Only from the newspaper?"

"What do you mean?"

"I mean that probably your space ship *Venus* has also reported something about this affair." Burns had difficulty in hiding his excitement.

Dr. Gundlach casually placed his finger tips together and regarded them intently. "For several days the sky has been uniformly cloudy, and all our signal-commu-

nication with the space ships has been interrupted," he said in a matter of fact tone. "But I don't understand why you should be interested in our internal communication system."

Burns moved a step closer. "You know that on the occasion of the mishap, the cause of which we will not discuss at present, a lady lost her life."

Gundlach nodded his head slightly.

"This lady is very close to me," went on Burns. "You may assume that she is my fiancée."

"Well?"

"I think you at least owe me some explanations."

The head of the Information Service in no way betrayed how painful this affair was to him. He had to proceed cautiously. This Englishman might be a spy who was using the fatal episode on the sea to extort admissions and explanations for which he could get good pay from some London paper. They had had experience before!

"Ask your questions!" said Gundlach after a pause.

"Have you received any news at all from the space ship *Venus* since July 9?"

"No!" replied Dr. Gundlach quickly, quite in accordance with the truth.

Burns drew a breath of relief. "Then there is still hope! Where is this ship now?"

"Probably on the way to the moon."

"Is there no possibility of getting into communication with the rocket?"

"Not at present! But won't you explain your purpose in asking these questions?"

"I will tell you very definitely!" cried Burns excitedly. "In the space ship *Venus* there is, living or dead, the lady who was reported as drowned."

Gundlach started up. "Impossible!"

"I was among those who were capsized. I believe that through the spray of the waves I saw for a moment a dark figure on the hull of the space ship and then a movement, as though a window was being opened. Of course, I may have been mistaken. But an inner voice tells me that Isabella de la Cosa is alive. And therefore I beg you—no I demand of you, to do at once everything in your power to establish communication with the space ship *Venus* in order to ascertain the fate of the unfortunate girl."

For a while Gundlach walked back and forth reflecting. Finally he stepped up to Burns, who was again sitting sunk down in the chair, with his head in his hands.

"If your suspicion should be correct, it is safe to assume that the crew of the ship *Venus* will use any possible chance to send a report. I will have all our signal stations ready. Let us hope that tonight there will be clear vision for at least a few moments. Otherwise—" Gundlach stopped, as though he had already said too much. "Please be so kind as to wait here for me a short time. Meanwhile, I shall give the needed orders."

* * * * *

Alongside a pier extending far out into the lake lay rocking the thick hull of a space ship. The wings had been dismantled. The top of the twenty-meter monster rose high above the pier and rubbed against the planking. On the stern there shone in brass letters "B. R. K. III."

On the narrow road of the pier stood tipcarts full of great steel cylinders, which were rolled one after another through the open side window and came out again empty. Out of the forward port came a man with unusually broad shoulders.

"Eder!" he called to one of the mechanics. "The gas pumps ar'n't sufficiently oiled and there's a worn-out bearing on the gyroscope. Do you call that being ready to start? Isn't the detonating gas in yet? And where's Krüger with the flight curves?"

He jumped out. In figure he was a giant. His mighty limbs were covered by an oil-smeared blue flying suit, and his steel-blue eyes flashed from a sooty face.

He hardly listened to the mechanic's reply, but walked over the pier to the rear end of the space ship and climbed over the stabilizers into the exhaust. His long, flexible fingers touched every one of the rocket-exhaust pipes, arranged like the cells in a beehive.

"Bring an oil rag here, Eder! A lot of these exhausts are stopped up!"

The dull sound of falling steel cylinders, mingled with hammer strokes and the clanking of oil cans, came from within the steel monster. The giant in the exhaust tube did not hear that someone was calling to him.

On the pier stood the elegant Dr. Gundlach. Eder came climbing over. "Doctor Gundlach is here!"

"Well, what does he want?"

"An urgent matter, he says, and if you would please—"

"All right! You finish the work here! Look, the outer row of pipes is considerably oxidized. Get off that layer! But be sure to wipe off all the oil afterward!"

With a few powerful strides he was over at the pier. "What's wrong, Gundlach? Anything important? I haven't much time."

"A silly affair!" The information chief walked quickly toward the land, to get out of hearing of the workers. The blond giant followed him.

"Gundlach, you're making up a face as though the moon had exploded!"

"There's a gentleman here," replied Gundlach, "who identifies himself as Sir William Burns of the Archaeological Institute in London."

"Ah, the Egyptologist!"

"Well, then, you know him! That simplifies matters!"

"I've only read some of his works. He seems to be a hard worker. Go on!"

"Burns claims that he experienced the episode of the *Bojador*."

"A devil of an affair!" growled the giant. "Still no word from Berger?"

"No, the clouds over Europe—"

"I know all about that. But go on! What does the Englishman want?"

"I don't know what he wants! He claims that the Mexican girl who was reported drowned didn't die but was taken on board the tank rocket *Venus*. And now he's after us. He wants to be sure."

"What's the girl to him?"

"He says she was 'near to him'. He's very much excited and—"

"If we don't calm this man down," put in the other, "the Portuguese government will be making demands on us. London will derive special enjoyment from playing the protector of the small nation, and there'll be diplomatic trouble. Why, they're just waiting for a chance like this! Berthold shall suffer for this, when I get up there. Why did the rogue have to fool around with the reflector on his own account!"

In his anger he walked so fast that Gundlach could hardly keep up with him.

"Is Sir William Burns still here?"

"Yes, he's waiting. If only the clouds would clear

away! If news should soon come from Berger, confirming the Englishman's suspicion, the affair will be pretty well settled. But if we don't get a report, then—well, I can't let the man stay sitting around forever! How do I know he hasn't based the whole story on what he saw in the paper, to get a chance to spy around?"

The giant stood still, bent over to his subordinate, and said briefly:

"I'm leaving at 9:28. If the affair isn't explained by then, I shall take the Englishman along with me. That's that!"

This plan did not seem to please Dr. Gundlach. "But —what if he has just fooled us? It wouldn't be the first time!"

"Oh, well! If it turns out to be trickery, I shall pull him apart en route. Now I'll talk with him. Is he in the conference room?"—

Dr. Gundlach again wore his look of calm and rather thoughtful reticence when he returned to Burns. "You're lucky, Mr. Burns. If you'd come two hours later, you'd have missed Mr. Korf. He invites you for an interview."

The Englishman sprang up delighted. "I'm very glad to meet Mr. Korf in person. When can I do so?"

"Right away!" said the powerful voice of the giant in mechanic's clothing, who had entered behind the information chief. "I've heard of your misfortune, and am extremely sorry for it. I'm glad I can help you to the extent of my powers."

Burns started back in amazement. "You—are you August Korf?"

The giant nodded.

"You're the man who's set the world in an uproar?" added Burns in embarrassment.

"It would please me very much, if the world would bother as little about me as I bother about it!" laughed Korf, pressing the archaeologist's well-kept fingers with his dirty hand.

### An Invitation

FOR a while Burns said nothing. He looked searchingly into the bright eyes of the famous Swabian and tried to conceal his surprise. He had pictured the creator of the *Geryon* very differently. He had expected a purely intellectual type of person, and was almost disappointed to meet this powerful and cheery man of action.

But it was strange! The longer he felt Korf's steel-blue eyes on him, the more clearly there went through him a feeling of calm security. From this man there went out waves of self-assured power and health. It seemed as if all cares and doubts must be stilled when Korf spoke, as if all problems and confusions were solved when he was near.

Burns suddenly felt a great longing to have this man want him for a friend. "Mr. Korf!" he began, and in his words there was the tone of complete confidence. "It's a serious but not hopeless affair which brings me in utmost haste to you."

Korf made a brief but not unfriendly gesture to stop him. "I know all about it, Mr. Burns. In twenty hours at latest you'll have certainty, and I hope it will be a happy certainty."

"Twenty hours is a long time for a man who waits in inactivity!"

"Not so long for one who is speeding toward his goal. Tomorrow evening at five o'clock you will see Isabella de la Cosa—or else know that you will never see her again."

As he spoke, Korf bowed his head. He was thinking of a day which had raised him to the pinnacle of fame and which at the same time had plunged him into the bitterest suffering. The first space ship, the *Geryon*, had landed successfully, amid the jubilation of hundreds of thousands. He had stood at the goal of his most ardent wishes, but also at the bier of Natalka.

"What do you intend to do?" Burns was staring uncomprehendingly into the energetic face of the great engineer, over which a trace of sorrow was passing. Korf shook off his sad remembrances and looked the Englishman in the eye. "I'm thinking of asking you to take a little excursion!"

"Where?"

"To certainty!" Korf's eyes were shining again. "Are you ready to start with me in an hour and a half?"

Overcome, Burns grasped the Swabian's hand. "I shall never forget this!"

The giant shook his head. "Not so fast, sir! The trip is neither a pleasure nor a gift. You must be prepared to do without earthly air for several weeks. For I intend to utilize your ability and knowledge for my excavations on the moon. It's a great advantage to have an authority like yourself on the spot."

"That would be my boldest wish, Mr. Korf. I'm absolutely at your disposal!" replied the Englishman enthusiastically.

"You don't yet know my conditions. The first is absolute subjection to my orders or those of my representatives. You will come into situations where the least arbitrariness on your part may cost you your life."

Burns nodded.

"Further, I require of you to devote yourself, after your return, exclusively to the scientific evaluation of the paleontological and archaeological finds, setting aside all your other work. Can you promise me this?"

Sir William did not reflect a second. "I can answer for it to the Archaeological Institute, and I give you my word."

"Good! Now for the last and hardest condition!" Korf smiled slightly. "The presupposition for everything is—silence. You must preserve unbroken silence regarding everything you see, and about all you observe of the technique of space—flying. You must, as it were, swear an oath of loyalty."

Burns hesitated with his answer. "It is hard, Mr. Korf," he finally said, "to experience marvels and remain silent."

Dr. Gundlach, who had followed the conversation with increasing dissatisfaction, raised his eyebrows, as though he had trouble in suppressing a satisfied "Aha."

Korf watched the young scientist, who was walking up and down undecided. Then Burns turned around. "Give me a quarter of an hour to test whether I am strong enough to undertake this pledge!"

"Very well!" agreed Korf calmly. "We shall meet at Pier Number Three at nine o'clock sharp. You'll have a good hour to get ready for your oath of loyalty and the voyage."

With a benevolent look Korf gazed after the slender young man, who left the room with a correct bow.

Dr. Gundlach laughted scornfully. "Well?"

"He's a man who takes his word of honor for what it is: a jewel not to be handled lightly!" replied Korf with satisfaction.

### A Telegram

NIGHT had set in. Out on the lake, a short distance from the pier, lay the ship, its wings spread out ready for flight. The lighted port-holes were reflected in grotesque distortion in the dark ruffled waves. A

fine, steady drizzle was falling from the starless sky.

From the church tower of Friedrichshafen came the dull strokes of the clock across the sultry air of the summer evening, as a motor-boat came up and laid alongside the space ship.

"Well, Sir William, are you ready?"

"I believe I can wholly accept your conditions, and I give you my word of honor to remain silent."

A small trunk was lifted in from the boat. Then the two vanished into the interior of the ship.

A quarter of an hour passed. A second boat approached. In the bow stood Dr. Gundlach, gesticulating wildly.

"Mr. Korf!" he cried out from far across the lake. Scarcely had the boat reached the rocket, when he hurriedly leaped on board.

"Mr. Korf, the station at Astropol is flashing to the Madrid Observatory!"

Korf wrinkled his brow. "In code, I hope!"

"Surely! By the merest chance the Spanish observer caught up a few disconnected signals and luckily telegraphed them here. Fearfully mixed up, of course. The decoder couldn't make any sense out of them. Only a few words could be made out with any certainty, but they're enough, I guess!"

Gundlach climbed back into the boat. Korf followed him and read the telegram in the uncertain light of the green starboard light.

"—steamer—Venus—named Tuxtla in—danger of her life—"

"He was right!" murmured Korf.

"Right? What do you mean? What did he call the girl who was supposed to be his fiancée? Fiancée of an English peer, mind you!"

"Isabella de la Cosa!"

"That name," said Gundlack, "was in the newspaper and was probably due to a mistake of the captain of the *Bojador*. But it's strange that the bridegroom-to-be should make the same mistake, and it confirms my suspicion that his acquaintance with this Mexican girl comes solely from the newspaper. Here it says plainly: 'named Tuxtla'! Where should Berger get the name, if not from the girl herself? That settles the matter."

Gundlach spoke in a low tone, but with the assured tone of a triumphing conquerer. Korf bit his lips. "Mr. Burns!" he called loudly.

The Englishman appeared on the gangway.

"Mr. Burns, what was the name of the lady on whose account—"

"Have you news of her?" interrupted Burns in a voice trembling between joy and anxiety. "Is she alive—or—" Quickly he climbed down.

"She's alive!"

"Thank God! She's alive!" The darkness hid the tears of joy which filled his eyes. "I knew it—Tuxtla is not dead!"

Korf glanced meaningly at the amazed official. "She's alive," he said seriously, "but she seems to be in some danger."

Burns grew pale. "Let's hurry up!" he groaned.

"Hold up your head, my young friend! Tomorrow you'll embrace your sweetheart!"

"My sweetheart?" repeated Burns in some confusion.

A quarter of an hour later a flash of light sped into the night and vanished into nothingness.

## CHAPTER XVI

### Astropol

DURING the entire trip Burns did not sleep for a moment. His anxiety about Tuxtla and the overwhelming impressions of the strange journey kept him in continual feverish excitement.

After the first few hours of the flight through the atmosphere came the brief but fearful period of the actual start into space. All at once the exhausts working in unison shot out their streams of combustion gases, and the ship sped out of the atmosphere of the earth like a stone hurled by some unimaginable power. Second by second the velocity increased, and an unendurable pressure weighed down on everything. This was for only a few minutes; then the speed of ten thousand meters a second was reached, which was sufficient to overcome gravity, and Korf shut off all the exhausts.

From now on the ship merely obeyed the laws of gravitation and rushed through space along a parabolic course determined by its own speed and by the influence of the earth.

At the same moment the mighty pressure vanished, changing to the exact opposite—to absolute weightlessness. The ideas of up and down lost all significance. Whoever did not hold fast to the leather hand-holds placed all around the walls floated like an angel in the rooms of the ship.

For Korf and the two sailors this condition was nothing unusual. But the Enghshman at first kept bouncing back and forth between floor and ceiling, helpless and seasick, bruising all his limbs, until he learned to avoid all hasty movements and to curb his natural muscular power.

For hours he and Korf sat in the control room, firmly fastened in armchairs screwed to the floor. This was the only possible way to maintain a position of the body corresponding to terrestrial habit. Tireless the Englishman gazed at the marvels of the stellar world and the receding earth, which stood out as a very clear globe.

"Mr. Korf," he said once, "why am I chosen to experience all this, for which thousands have sought in vain? They say it is impossible to penetrate the secrets of the Korf Company. Why was it given to me?"

"Why?" said Korf slowly. "Because you are one of those who came to me with proper and honorable purposes. Also," he added, with a smile, "because you can be useful to me."

It was about the eighteenth hour after the start. Korf pointed the little telescope in the control room at a dot in the sky, scarcely visible to the naked eye. He called to Burns.

"Look through it!" he commanded the Englishman, and a peculiarly triumphant smile was on his face.

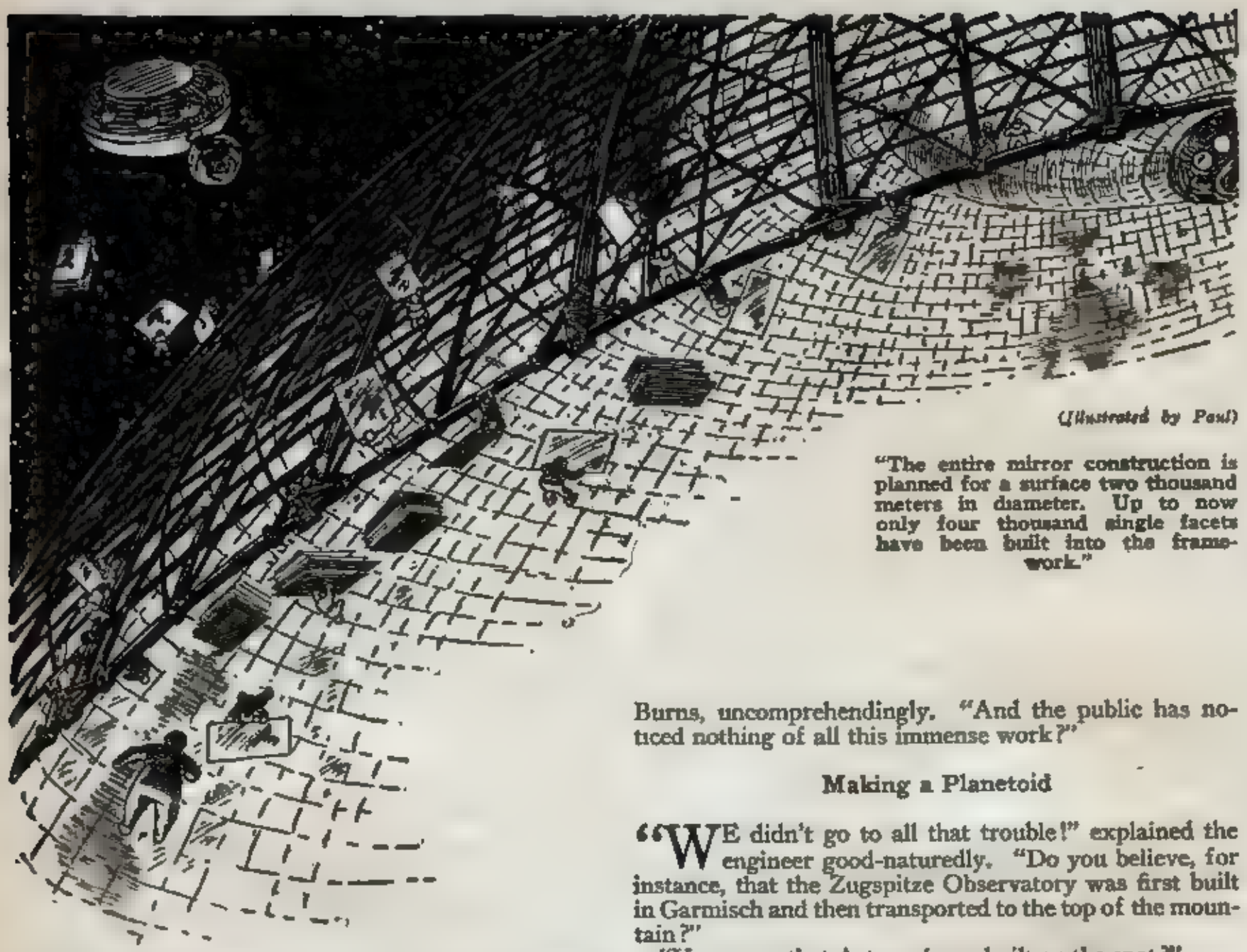
Burns adjusted the eye-piece. "A remarkable double-star!" he said doubtfully. "It looks like a planet around which a little moon is revolving very rapidly and close to it. Both have a strikingly blue light. What is it? The planet is surrounded by little moving sparks and whitish threads!"

When the other made no immediate reply, he asked, "Is it Venus?"

Korf laughed loud. "No, indeed! The star of Aphrodite is at present more than two hundred million kilometers away, and with this little telescope you would seek vainly to recognize any of its details."

"That is to say, this double-star is either very large or else very near us?"

"So near that in just two hours we shall be there! It



(Illustrated by Paul)

"The entire mirror construction is planned for a surface two thousand meters in diameter. Up to now only four thousand single facets have been built into the framework."

is a second satellite of the earth and goes around it inside the orbit of the moon at a distance of about one hundred thousand kilometers, that is to say, one-fourth of the distance of the moon."

"And nobody knows yet of this second moon?" asked Burns in amazement.

"It has not existed long." Korf's eyes were shining. "I built this moon! It is Astropol, our destination."

Burns recalled Nielson's remarks about the stationary rocket, flying in a constant orbit around the earth.

"Then this body is a space rocket?"

"No! It has no mechanical propulsion. It is, in fact, nothing but a small artificial heavenly body, constantly maintaining a fixed orbit."

"And why doesn't it fall down to the earth?"

"For the same reason the old moon doesn't fall to the earth, nor the earth to the sun. It was only necessary to give it the requisite tangential speed. From the attraction of the earth and the body's own lateral motion there results quite naturally the proper Kepler ellipse, and this does not change so long as the motion of the artificial star is not somehow accelerated or retarded by technical means."

"But you must have had to take this structure up from the earth, set it in motion, and—" he interrupted himself. "How big is the whole thing, anyway?"

"The main body is one hundred and twenty meters in greatest diameter," stated Korf.

"What? As long as a respectable ocean liner! Do you mean to say you raised this monster a hundred thousand kilometers above the earth and set it in motion?" cried Burns, uncomprehendingly. "And the public has noticed nothing of all this immense work?"

### Making a Planetoid

"WE didn't go to all that trouble!" explained the engineer good-naturedly. "Do you believe, for instance, that the Zugspitze Observatory was first built in Garmisch and then transported to the top of the mountain?"

"You mean that Astropol was built on the spot?"

Korf nodded.

"Well, on what spot—in space? And of what?"

"The affair was tedious and slow, but luckily it was not so difficult as you imagine. First we had our largest space ship, the old *Geryon*, gravitate around the earth in the orbit intended for the artificial moon. That offered no difficulties at all."

"I can see that all right!"

"The *Geryon* had a force of workmen, thirty in number, who were regularly relieved. These workmen gradually built up Astropol—very simply, around the *Geryon!*"

"During the flight? That is, while the space ship was madly speeding around the earth?"

"Of course! It's like this, Mr. Burns. Here you are, sitting fastened to your chair, because you no longer possess the least weight to keep you in your seat. But if you slip into a diving suit such as we have and climb out through the double doors, you will float comfortably beside our rocket and feel nothing of the fact that we are shooting through space faster than the best airship on earth. As long as the exhausts don't work and there's no air resistance to check us, absolute weightlessness prevails. It's exactly as though we stood still and Astropol hurried toward us—the old story of the relativity of all motion, which in space suffers no disturbance!"

Burns did not reply at once. It was hard for him to rid himself of his terrestrial viewpoint. "Of what material is Astropol built?" he finally asked.

"Chiefly of sodium, which is continually brought in great pieces from all parts of the earth by four of our

own tank rockets. The rocket *Venus* is such a sodium ship and was just en route here from Chile."

"I hardly dare offer any objections, Mr. Korf; but sodium, according to my knowledge, is a metal as soft as butter, and so active chemically that it has to be kept under petroleum to prevent its immediate destruction."

"Can't you get entirely rid of your earthly thinking? To be sure sodium burns, as soon as it comes in contact with the air. But under the conditions of airless and heatless space this metal gives the most excellent building material that can be desired. In the cold of two hundred seventy degrees below zero it is like the best steel in firmness, and it also has the advantage of weighing very little. Of course that doesn't mean anything so far as the construction goes, but it plays a decisive part in the transportation hither. Working this material is a very simple matter, since it is still soft when the tank ships arrive. It can readily be rolled out into sheets of any desired thickness. You must also take into account the absence of weight at the site of construction, which makes it possible for a workman to accomplish at least fifty times what he could on earth. This is why we have succeeded in completing, in about eight months, a structure that would have taken many years on earth."

In deep admiration Burns gazed at the man who spoke so simply and naturally of accomplishments reaching out into the stellar world. "I'm beginning to see that nothing is impossible for you, Mr. Korf."

"And I understand less and less," said Korf, "why they make so much fuss about all this work, which is so much easier to do in weightless space than on earth. Just think how many people are occupied, when building a house, in merely passing tiles from one story to another. Here a man holds in the tips of his fingers many hundredweight of heavy sodium plates and pushes them where they belong. They weigh nothing at all.

"The only trouble is that the human organism doesn't very well endure a permanent stay in a weightless condition. To be sure, individuals vary in this respect, but the need of a gravity cell kept getting more and more acute."

### A Gravity Cell

"A GRAVITY CELL? You mean a room with artificial gravity?

"Certainly! You've already seen with your own eyes the solution of this problem. You just described Astropol as a double-star, and this was correct. The arrangement consists of a main body—a hollow sphere, considerably flattened, somewhat like a disk—and a much smaller accompanying body shaped like an extended pear. These two structures are joined by a sort of pipe sixteen hundred meters long, and revolve around each other at this distance apart. Since the mass of the small body is only a fraction of that of the main body, the common centre of gravity or point of revolution is so close to the centre of the disk that the latter simply revolves on its axis, while the pear on the cable swings about it in an orbit. Do you understand?"

"Perfectly! The entire system is a small replica of the relation between the earth and the moon."

"Just so! The only important difference is that the force of attraction which holds the earth and the moon together is here replaced by the solidity of a hollow metal cable. The quick rotation of half a revolution a minute produces in the little pear-shaped satellite a centrifugal force, which nearly makes up for the normal gravity on earth. So that here again there is an up and a down. The person in it feels his weight and can sit, lie, and walk perfectly normally. Of course the living and sleeping quarters are in this pear."

"Marvellous! And the disk?"

"That's the real station—the platform in space, which we need as a fundamental condition for the further development of spatial navigation."

Burns was just debating whether to ask about the purpose of the whole arrangement, when Korf anticipated his curiosity.

"You know that we set foot long ago on the inhospitable moon and erected solar power plants there which melt the ice of the moon and decompose it electrolytically into oxygen and hydrogen. In the chilly temperature of space these two gases of course solidify into solid crystals and make up the principal fuel for our space rockets. In this matter we've been independent of Mother Earth for a long time.

"But the products of our power plants on the moon had to be located somewhere for storage. It would be absurd to fetch them first to earth, and then lift them up again as cargo in the tanks of the rockets, above the earth's field of attraction. Nor was it practical to store them on the moon. Merely to make a landing on the airless surface of the moon requires careful and somewhat dangerous maneuvers. Besides, all the space ships in need of fuel would have to enter first the somewhat considerable field of attraction of the moon. In short, there were difficulties which actually compelled the building of a practical fuel station, and Astropol is the result.

"The special significance of Astropol, however, lies in the fact that its existence for the first time makes at all possible future advances into the realm of the planets."

The Englishman looked up inquiringly, and Korf went on:

"A ship that intends to go as far as Mars must be provided for the long voyage with ample supplies of food, air, and everything else needful. There must also be room for a sufficiently large crew. In other words, it will be of considerable size. If this ship, already extensive in itself, starts directly from the earth, it must take along fuel, first, for raising its own weight above the earth's field of gravity; then, for the trip itself, and, finally, still more to lift this fuel up from the earth.

"You can see at once that a space ship for interplanetary travel doesn't need the first and last of these loads if it starts the trip right from the station in space, where it's built. And saving fuel is everything! If a rocket uses too much fuel, it must have greater dimensions to be able to hold it. But the increased size again demands more fuel, and thus it goes on in a vicious circle until it passes the limit of technical possibilities."

"When are you thinking of undertaking the first voyage among the planets?"

"In four days, to Venus; or else to Mars, but in the latter case not for two months. The starting time depends on the relative positions of the planets and the earth. We can't just set out when we please."

Burns eyed the engineer intently. "Then for heaven's sake set out for Venus first, Mr. Korf, if you possibly can!" he said quickly.

"Why so?"

"Because otherwise you might arrive too late!"

### The Great Mirror

AS the ship approached its destination, the great mass of Astropol loomed up before the astonished eyes of the Englishman. He was soon able to recognize all the details with the naked eye.

The gigantic revolving disk was so placed that one of the greatly flattened poles was pointed directly at the sun and shone in dazzling illumination. The shadow line was sharply marked at the bulging "equator," and the other pole was constantly in absolute darkness.

Around it like the spoke of a giant fly-wheel, swung the thick sodium cable, which ran out from the equator of the disk and which, at its outer end, held firmly the little pear which sped around it, as if gripped by the stem.

The dots of light observed through the telescope proved to be the expanded rubber suits and the diving helmets, shining in the sunlight, which were worn by workmen who flitted in and out like bees at the solar pole of the station. Now and then tiny little rocket boats glided out into space, pushing before them some shiny pieces of metal.

The whole traffic seemed to move chiefly in one direction, and Burns soon discovered at some distance from Astropol a dense accumulation of the shiny points.

"Is something being built out there in the direction of the sun?" he asked Korf.

"The men out there are working on the principal concave mirror," replied the latter.

"So far from the station?"

"The entire mirror construction is planned for a surface two thousand meters in diameter. Up to now only four thousand single facets, each one hundred square meters, have been built into the frame-network. These can collect the sunlight on a surface of forty hectares* and concentrate it on one area."

"Where is this vast amount of mirror surface manufactured?" asked Burns in amazement.

"At the station of Astropol. It is very simple. The sodium which arrives is rolled out into sheets as thin as paper; the individual pieces are unfolded by being turned on their own axes and are then put into the frames. You mustn't think of terrestrial quicksilver mirrors! The facets are as thin and light as paper, and every day the total surface grows a few hectares more. But it will be a long time before the structure can fulfil its real purpose."

"And what is that?"

Korf laughed. "You'll be surprised. Listen. The mirror has no other object than to make money!"

This sounded so grotesque that Burns too had to laugh. "Make money?"

"Certainly! Money, and then some! The stockholders of the Korf Company are only persons of flesh and blood, and they want dividends on their investments. Thus far our rockets have simply swallowed up money —unthinkable sums! It can't go on this way for ever. The golden breath of life is bound sometime to leave even the richest firm."

"I really can't imagine how the mirror can bring in money, no matter how large it is," replied Burns incredulously.

"Oh, it has important purposes of civilization to serve. By concentration of heat and light it can make barren regions of the earth fruitful, keep the northern Siberian ports free from ice, prevent the dreaded storms of the springtime, and thus save the fruit and vegetable crops of entire countries. I estimate that with one hectare of mirror-surface about three hectares of fallow land can be cultivated. Of course the owners of the land, which means first of all the states, will have to pay accordingly, and that is how we shall rent out our mirror.

"In other words, we shall sell solar energy. Of course —" Korf hesitated a moment— "by uniting all the reflecting facets on one single spot on earth we can attain frightfully devastating results. It won't be hard to blow up munition factories, to produce storms and hurricanes, even to set fire to whole cities and burn them to the ground. You yourself have experienced a tiny example of the power of the solar reflector, Sir William!"

"Then you actually control the whole earth!" cried Burns in amazement. "Henceforth you can nip every war in the bud!"

"Certainly! And that's the reason for our secrecy of action. If the so-called civilized nations guessed what is going on up here, a mad war of annihilation would be directed against me, and instead of building up and advancing civilization it would cause senseless destruction! Simply from fear! Only when the mirror is completed, and I have full power in my hands to check all such plans of destruction, will mankind learn of our work and enjoy the fruits of our silence.

"Believe me, Sir William, it has been hard for me to keep silent about this great work. The Space Ship Company assumed a great responsibility when it decided to build above the heads of all the nations a plant which will henceforth determine the fate of the nations."

### The Landing

BEFORE Burns could find an answer to these tremendous revelations, Korf had turned back to his instruments. The landing maneuvers were about to begin.

The gyroscopes commenced to buzz and whistle. Slowly the space ship turned, until the exhaust-end pointed straight at Astropol. Then came a few discharges of brief duration—braking shots which reduced the speed of the ship more and more until it was the same as that of Astropol.

A few hundred meters from the goal this complete equalization was secured. The rocket ran in the same orbit as the station, and both seemed mutually motionless.

"It requires a great deal of skill in maneuvering and a lot of practice," remarked Korf, who could now give his attention to his guest again, "to stop the space ships at the right point, so that the equalization in speed does not take place too far from the destination. Once Berger did succeed in laying a ship directly at the solar pole of the station. But that's a serious matter. The least lack of precaution may lead to a collision which would have destructive results for the ship. It's safer to carry out the braking maneuvers at a respectful distance from Astropol, to 'anchor out in the roads', so to speak."

"Now how do we get across?" asked the Englishman, who was still impressed by Korf's account of the unlimited power of the solar mirror.

"Look!" said Korf, smiling and pointing ahead. "Our 'pilots' are coming out! It won't take long now."

Two of the shining balloon-like suits were gliding toward them. With the aid of the recoil action of pistol shots they sped through space as little living rockets. They pulled along behind them a flexible cable, which shone against the black background of the sky like an iridescent snake; this they fastened about the hull of the ship and, the first connection was secured.

The cable was pulled in, and the space ship neared the vast mass of Astropol. Straight toward the solar pole it went, and was at once involved in the revolution. For a moment Burns struggled against an uncomfortable feeling of dizziness, but this quickly subsided. He no longer felt the rotary motion. Instead, the stars now

* Four million square feet.

seemed to be moving in a circle in a measured course.

Korf made no move to leave the ship, and Burns had to control his impatience for some time. He clung to the handholds and tried as best he could to survey his new surroundings through the windows. Then the ship began to move again, and suddenly it was dark. It seemed to Burns as though the rocket was being pushed along sideways.

Several minutes passed. Outside could be heard a very soft rustling, which soon increased and changed into a whistling, as though a strong wind were blowing. After a short time the noise died away. A faint light came through the port-holes.

At last Korf opened the various fastenings of the inner door of the double entrance. "Are you ready to leave, Mr. Burns?" he asked.

"I've been waiting for a long time, Mr. Korf," said Burns, looking around at the rubber suits.

"You may leave the ship just as you are. We are already inside Astropol, and you needn't be afraid of freezing or suffocating. Come along!"

Korf grasped the Englishman by the arm and pushed him out through the door. The men now floated beside the ship in an enclosed twilight room. Light was streaming in from somewhere. All around on the walls were hand-holds in the form of loops.

In some confusion Burns followed the engineer, who was pulling himself along the wall toward a great gate-like opening. Then they came into a vast hall, brilliantly lighted, through which ran a maze of bars and taut hemp ropes, going in all directions. From one curved wall, which was pierced by hundreds of windows, the sun blazed in and warmed the air perceptibly. The other limits of the room Burns could not see. His gaze was fixed on the network of ropes, and he had the feeling that the room was infinite and endless.

"We are now in the main hall of the disk, under the solar pole," explained Korf. "The chamber we just left is the great entry shaft for space ships, the outer gate of which was solidly closed after our entrance. We had to wait while the shaft was being pumped full of air. Like all the entrances, it is of course built as an air-lock with an inner and an outer valve, in order not to endanger the air pressure within the station."

Inside the hall it was full of life. Men glided here and there through the great meshes of the network. One scarcely noticed that they pushed themselves through the meshes with their hands and feet and corrected their motion by momentarily grasping at the cables, for they appeared to glide through as freely as goldfish swimming through the confusion of plants in an aquarium.

Burns suddenly understood the purpose of the ropes. If the room had been empty, it would have been very difficult to move from place to place in the absence of weight, and people would have been reduced to pulling themselves slowly along on the walls.

Some men came up to Korf and engaged him in conversation which Burns could not understand. He purposely remained at a little distance, for he had no desire just now to talk, in this unusual situation, nor even to be formally introduced to anyone. For the moment, his most ardent desire was to feel a floor under his feet as soon as possible.

Korf now turned and motioned for Burns to follow him. Carefully Burns imitated all the movements of his guide and marvelled at the speed with which he learned to move from rope to rope like a monkey.

At the extreme edge of the hall Korf stopped and pushed his guest into a tiny room like an elevator, which was electrically illuminated. He seemed to be in the best of humor.

"Excuse me, Mr. Burns," he said while pointing out to him a particular place in this very narrow room, "if I treat you like a child. But it is literally true that here you must first learn to walk. Just put your feet into these overshoes which are fastened to the floor, and hold onto those loops with your hands!"

Burns obeyed. It seemed to him as if his body was being drawn by some force in a certain direction, and when he had forced himself into the position mentioned, he plainly felt a slight pressure of the overshoes against the soles of his feet. He told the engineer of this observation.

"That's right!" the latter replied. "We are now in the equatorial bulge of the disk-shaped main body, and here the centrifugal force of the rotation is felt rather plainly. Your head is pointing toward the centre of the station and your feet toward the living quarters, down to which we are just going to travel."

"Then there is actually an up and a down here?"

"Oh, yes! Since the centrifugal force always presses outward from the centre of rotation in the form of rays, we feel every radial direction from the station as down. I warn you not to change your position now. You'll soon feel your weight again, and cats are not the only things that are supposed to land on their feet."

### To the Living Quarters

A SLENDER little man also slipped in, so that the elevator, barely a meter across, was completely filled by the three men. Then Korf pressed a button, the door shut of itself and, with a dull rubbing sound, the elevator moved.

"We are now traveling inside the communication cable from the station to the gravity cell, or rather to the living quarters, as we generally call the revolving pear. Centrifugal force alone operates the elevator. All that's necessary is for it to be sufficiently braked, so that it sha'n't get too much speed in the free fall. This lever serves as a brake. See, I now turn it a bit! Do you feel anything?"

"I must admit that my head feels simply terrible. I feel as if my brain had dried up and lost all power to think. A visit to Astropol is more than normal human reason can grasp!"

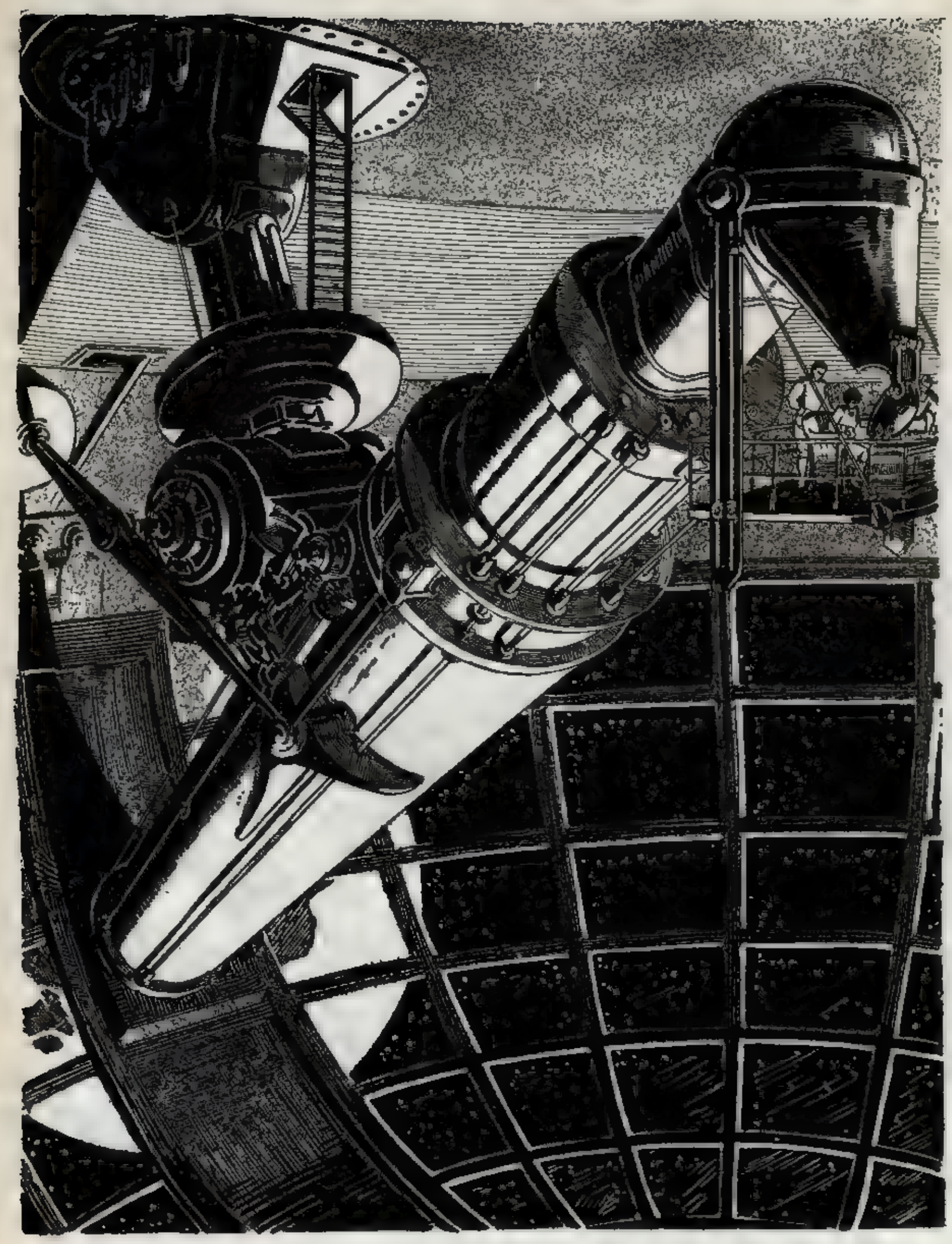
"That's just how I felt a week ago!" put in the slender man. "The mad life on this crazy star is enough to get any halfway sensible person completely mixed up. But one gets used to it far quicker than I thought possible at first. After that, floating around among the ropes is real fun, and the madhouse becomes a joyful place! Permit me—my name is Finkle, Dr. Samuel Finkle, space ship doctor and director of a Solvay plant, but now retired from those things."

"My name is Burns!" said the archaeologist wearily. "I'm glad to meet the famous ship's physician of the *Geryon*, who is also the brother-in-law of the great traveler of space," he added politely.

Talking was hard for him. The floor pressed harder and harder against his feet, so that his legs threatened to buckle in the middle—a feeling familiar to every visitor to a very high tower, when he comes down to the level street after descending a thousand steps.

There was again a vertical direction, again an up and a down. The floating was over. Burns grasped the hand-holds convulsively, in order not to sink down. Korf took hold of his arm.

"It's only your own weight that presses on you, and



*(Illustration by Paul)*

Korf laughed. "One to ten thousand. Objects on the earth three meters long can be recognized as dots. See for yourself; you can make out the Thames and Trafalgar Square. . . ."

even that not to its full extent. The long stay in weightlessness has weakened you, Mr. Burns."

The Englishman leaned heavily on his neighbor.

"Yes, my dear Sir William," said old Sam, cheerfully, "here is where one learns for the first time what a respectable weight one possesses! But it's just as well to be reminded once in a while that you're made of flesh and bone and not of air or a vacuum. I must say, it was a very clever idea of Gus to provide for sufficient variety in Astropol! In the living quarters one can eat like a respectable person and lie in bed; he can shoot up to the attic like a pike in a pool of carp, and if this isn't enough, it's possible to take a little flight in the splendid sunshine from the station over to the solar reflector. Only the wine cellar isn't very well stocked, and that—"

A sharp squeaking outside drowned out the doctor's chatter. With a gentle shock the elevator came to rest. The three men got out and found themselves in the top of the living quarters. Uncomprehendingly the Englishman stared out through the top-windows up at the sky, where high above, on the end of the tube through which they had just passed, the mighty oval of the station was floating.

"Is the whole system now motionless?" he asked uncertainly.

"Not at all!" said Korf with a smile.

"But the disk doesn't move. It doesn't revolve a bit."

"You understand that the pressure of centrifugal force is always directed outward from the centre of rotation."

"I certainly do understand that."

"And do you see that the direction opposite to the centrifugal force always signifies upward to us?"

"Yes, that's clear, too."

"Well, then! The station, looked at from the living quarters, is always above. But just look at the stars! You'll see at once that the living quarters at all times rotate around the station."

In truth, the sparkling army of stars was passing at an even, quick pace up behind the disk across the black sky. They were densely crowded, a sea of untwinkling points of bright light. The well-known constellations had vanished in the myriads of less brilliant stars which are invisible from the earth on account of the dense atmosphere.

Suddenly Burns gasped. His wide-open eyes stared up into infinite space. A silvery half-disk was rising and spreading like a giant across the firmament. It was the earth! In the parade of the stars, it passed majestically through the zenith and disappeared like the rest behind the edge of the window.

"The sun is in an exactly horizontal direction to the side of us," Korf went on in his explanations. "It doesn't move, since the axis of our rotating system is pointed exactly toward it. So the sun plays for us a similar rôle to that of the north star for the earth, which remains approximately over the north pole of our native planet. But enough of this! First a hearty lunch, and then to bed. You need both badly!"

The Englishman did in fact present a pitiful appearance. He tottered as though he could keep on his legs only with the greatest effort, and his face had lost every trace of color.

"You're right, Mr. Korf!" he said, wearily. "But the most important thing of all to me is Tuxtla. Where is she? Where is Tuxtla?" he repeated as if clear consciousness had just returned to him.

"She's been waiting for you a long time!" said Dr. Finkle. "A few minutes more won't matter."

Burns looked mistrustfully at the wrinkled face of the physician. "Don't hide anything from me!" he said harshly. "In what danger is she?"

Finkle looked somewhat puzzled. "I don't know of any danger. The lady is in good health and has got over her harrowing adventure very well. But there's no point to your visiting her in your present exhausted condition!"

"But the telegram said—" began Burns, who was far from calmed.

Then Korf interrupted with a laugh: "My dear friend, we've been anxious without cause. Here's the complete light-message! Of course I asked about it up at the station." And he passed the Englishman a piece of paper.

"In the collision with the steamer *Bojador* there was taken on board the tank rocket *Venus* a woman named Tuxtla, in extreme danger to her life. . . ."

## CHAPTER XVII

### One to Ten Thousand

BELOW the shaded pole of the disk extended a dome of strong transparent glass, the main observatory of Astropol. An immense telescope projected from the roof of the great room, with the tube hung oblique to the circular dome. Outside was black night. At the side the immense crescent of the earth, overshadowing all else, was moving in a circle and casting a dull silvery light on the shiny instruments.

Isabella de la Cosa sat motionless on one of the screwed-down chairs. Claspe around her feet and arms held her in her place in spite of the absence of gravity. Her glance was fixed on her distant home, the radiant earth, which was floating in space like a moon. The contours of the continents stood out sharply above the darker seas. The rotation of the planet was visible to the naked eye, as new and still newer stretches of land slowly appeared over the edge of the lighted half-disk.

Burns broke the silence. "What are you thinking of, Miss Isabella?" he asked softly.

Isabella looked up as though waking from a dream. "Of Queen Huitaca!" she whispered. "It seems to me as though I were Queen Huitaca—"

"Who as punishment for her evil deeds was cast up to the sky!" added the Englishman. "How could you have merited such a punishment, Miss Isabella?"

The girl passed her brown hand over her eyes. "Punishment?" she repeated thoughtfully. "Was it really a punishment, Sir William?"

August Korf appeared in the doorway and greeted his guests heartily. Then he adjusted the eye-piece of the telescope.

"Since Astropol circles above the shadow-line of the earth, we always see our planet from here as a half-disk," he began his promised explanations. "At present we are above the northern hemisphere, which is now inclined toward the sun and on which it is summer. The pole is always in the light. If you move a bit from the centre of the straight edge toward the interior of the semicircle, you will find the brilliant snow-fields of the north pole. Just a moment!"

He pushed a button. The circular floor of the observatory began to revolve in the opposite direction to that of the rotation of the disk. The apparent motion of the stars outside became slower and slower and entirely ceased, when the revolutions of the room had become the same as those of Astropol and counterbalanced them.

The 'pendulum' of the living quarters, however, which had hitherto hung apparently motionless in space, now began to swing around again.

The earth now floated motionless in the sky, and the telescope could be pointed with exactness. Burns was the first to look through the eye-piece.

He adjusted the control-screw of the telescope. The Norwegian coast moved into the field of vision, followed by the whole bizarre shape of the Scandinavian peninsula. Then came dull grey patches. Heavy clouds hung over central Europe. The Alps towered up in dark strips above the surging sea of mist, while beyond shimmered the sunny coasts of the Mediterranean.

Strongly foreshortened, the contours of Spain, Italy, and North Africa were floating at the extreme tip of the crescent of light. Over the central wide part spread out the continent of North America, while the other tip was filled by the Pacific.

"Splendid!" cried Burns in ecstasy, as he gave his place to Tuxtla.

Meanwhile Korf was adjusting a smaller instrument which was mounted on a very complicated stand.

"The enlargement with which you are looking at the earth is only two hundred, and permits only a general survey. What point on earth would you like to see more exactly? This tubeless telescope reduces the distance to a ten-thousandth, and—"

"It's news to me that there can be a telescope without a tube," interrupted Burns in astonishment.

"Only out here in empty space! Do you see the faintly shining point out there? That's the objective—a concave mirror seven meters tall, which is held out from the station by long steel bands. It reflects the image of the object sighted across into the dome and into the eye-piece. In this way we get enlargements which reduce the ninety-five thousand kilometers to the earth to just ten kilometers, and we view the surface of the earth just as we would from the summit of Mount Everest. Of course this combination shows only relatively small sections of the earth, and you must decide what points you want me to focus for you."

"Is England possible—"

"England is a large order. Let's rather say London!"

### London From Afar

THE focussing took a few minutes. From the objective thin wires ran into the dome. Electric currents regulated the mirror and made it follow the rotation of the earth automatically.

"Of course it's foggy!" murmured Korf, without taking his eye from the eye-piece. "But luckily the fog isn't dense and is irregularly spread out. You can plainly make out the Thames and Trafalgar Square, if I'm not mistaken—"

Burns shook his head in doubt. "What, you claim you can recognize individual places at a distance of more than one hundred thousand kilometers?"

Korf laughed. "One to ten thousand, my dear Sir William! Objects three meters long can be barely recognized as dots. See for yourself!"

Burns gazed eagerly through the glass. At first all he could see was a grey expanse. It was only slowly that his eye became accustomed to the dim images. Patches of mist passed by, massed themselves together, and broke up. Dark spots appeared—a swarm of dots. London lay before his eyes like the plan of a city on a very minute scale, pleasing him greatly. It was foreshortened and viewed obliquely, as though from a distant airplane.

The wide stream of the Thames passed through the middle, with tiny little lines on it, the Thames boats. On both sides was a confusion of lines and rectangles filling up the entire field of vision—the sea of houses in the giant city. High towers and striking buildings contrasted with monotonously built-up sections of the city.

"This is uncanny!" exclaimed Burns. He looked to see if he could find Lord Kingsley's house. "Buddy!" he thought. "If she guessed that I was looking down from here—"

Isabella's melodious voice rang through the room. "Mr. Korf, can one also look at Venus with this instrument?"

"Surely, Miss de la Cosa! Venus is at present floating toward us from beyond the sun and appears as a broad and very bright crescent. Laterally from the earth—yes, you must look over here."

Korf slipped behind the girl and directed her glance at the brilliant star of Aphrodite, which was just visible far below the horizon at the lowest edge of the dome.

"If Mr. Burns has looked long enough at his native city, I'll point the telescope at Venus for you."

Burns turned around, full of interest. With a mixture of wonder and hesitation he looked at the Mexican girl.

"Can we also see the little satellite you recently discovered?" he asked quickly.

"Then you know—"

"I've heard of your discovery, and this tiny moon interests me extraordinarily. Will you make the adjustments?"

For a while all was silent in the dome. Burns snapped his long fingers nervously. Isabella looked fixedly at the shining point in the sky which represented the morning star. Her face remained quite expressionless. The deep brown was shading a bit into yellowish, probably in consequence of the adventures and physical exhaustion she had gone through so recently.

Korf turned wheels and levers. The electric regulating currents swung the mirror around. With a little adjustment of the eye-piece, Venus appeared in the field of vision of the telescope.

"Will you please look, Miss Isabella?"

Isabella placed her eye to the glass.

"What do you see?" asked Korf.

"A shining, yellowish surface, rather pale—"

The words came hesitantly from the lips of the girl.

"Is that all?"

"Yes! Excuse me—wait!—bright spots and darker ones—a lot of lines in between—there's something like a thick fog over snow—the lines vanish and reappear—mist—and the whole thing is moving slowly sideways."

Korf smiled. "On the star of the goddess of love there is probably nothing but snow and ice. As for this moving to the side, I am responsible for that. I made the telescope pass very slowly across Venus, so that you might gradually—"

"Stop!" cried Isabella, all of a sudden. "I see the edge of Venus! How magnificent it is! A gigantic arc, standing out brilliantly against the black velvet of the sky! I see something indistinct at the edge—those whitish mist clouds again! They're bubbling up and rushing into the inside of the disk—like wild horses of the pampas. Everywhere I see motion—illumination—flashing—the star is steaming—boiling over—"

### The Mists Are Rising

KORF'S hand touched the adjusting device. The objective mirror turned a little further, almost imperceptibly. "What do you see now?"

"Down at the left I still see a little bit of the shining edge of the morning star, sending out some more boiling vapors. Nothing else! Only dark night!"

"Nothing else? Look closely, Miss de la Cosa!"

"Oh, yes! Now I see a star shining up at the right—just as one might see it with the naked eye."

"It's one of the infinitely distant fixed stars," agreed Korf, "which even our strongest telescopes can't bring any closer! But just look closely at the space between this star and the edge of Venus! Don't you see——"

"Yes, yes, now I see it! A very faint shining point—as pale as a meteor—it's floating like a snowflake above the mists on the edge of the crescent. The mists look as if they were reaching out for it, as if they were trying to catch a ball—"

Korf nodded. "That's the new satellite of Venus, which we recognized for the first time two months ago. It's so small that even in this very powerful enlargement it only looks like a dot of light—a tiny splinter beside the giant mass of Venus!"

Isabella silently regarded the spark of light out in space. Burns had risen. Tensely he watched the play of expression on the Mexican girl's countenance, as though expecting something inexplicable and terrible. It seemed to him as if Tuxtla's smooth face must bring the solution of the cosmic puzzle—more surely than the best of telescopes. Unconsciously he grasped the stone from the moon, which he always carried in his pocket.

Korf had noticed the excitement of the Englishman. "Don't you want to look at the splinter, too, Mr. Burns?"

Burns declined. His eyes were fixed on the girl. "Excuse me—Tuxtla!"—he exclaimed.

The engineer could not understand the strange behavior of the Englishman. Shaking his head, he went back to the instrument. But what was that? Isabella was no longer looking through the glass. Her head lay back, the blood had left her cheeks, and her skin shone yellowish against the background of her black hair. Her eyes were wide open—staring—and the pupils could not be seen.

"For Heaven's sake, Miss Isabella, what's the matter?" cried Korf in amazement. He reached for the telephone.

"Quiet!" whispered the Englishman. "Be still and listen!"

Surprise and confusion filled Korf. He had a dull premonition—a feeling that in this moment something was happening which was not of this world.

Isabella's breast rose and fell quickly. Her breath whistled through her violet lips. She uttered a deep sigh and then—Korf started in horror. A shrill cry rang through the hall.

"Quick! Quick!"

Korf had clearly seen that the girl's lips had not moved. He looked inquiringly at the Englishman. "What is this, Sir William? What shall we do?"

"Nothing! Nothing at all! Wait! Just be quiet!" He grasped the engineer's arm.

Isabella rose up. Her face was distorted as though in frightful anxiety. Then she spoke again—or rather, she screamed: "The mists—they're rising—getting nearer and nearer! The vapors are reaching out for us—like hands they want to clutch us—to pull us into the depths! Quick! For God's sake be quick!"

Burns had turned pale. He bent over the girl and gently stroked her brown hands. "Tuxtla!" he called. At his touch she started. The fear left her face. Her voice was soft again.

"Past!" Her words came hesitatingly. "The misty hands are sinking back—but they are lurking in the depths—they will return! . . . " She uttered a low moan, and then all was still—very still.

"Tuxtla!" Burns repeated the Mayan name almost inaudibly.

Korf meantime had been glancing through the telescope. In excitement he fingered the scales. He seemed to be making a measurement and calculating something. He worked his slide-rule frantically. Again he glanced through the eyepiece.

"Mr. Burns!" The voice of the usually calm and untroubled traveler of space was trembling.

"What is it?"

"The satellite has—" Korf took a deep breath. "It has again considerably lessened its distance from the surface of Venus!"

Burns shut his eyes. Like a flash Mr. Nielson's explanations came to his mind.

"Is it falling?" he almost shouted.

"No, no, not yet! But its orbit is no longer constant. It is changing and approaching Venus!"

"For Heaven's sake—it's touching the atmosphere of Venus! The misty hands! How long can it hold its own in this struggle? Oh, let's hurry, August Korf! Your space ship is ready! Not to Mars, no! To Venus—at once—before the catastrophe occurs! Hasten, hasten, August Korf! You can! You must!"

"Why, do you think I could prevent the crash?"

"No, I realize that no one can change the course of the stars—not even you! But we must see and investigate it—this satellite—before it crashes! There's a riddle surrounding it and we must solve it—the greatest riddle of all time! Set out, August Korf! I'll go with you!" His hand pointed to the shining star. "I—and Tuxtla!"

"Tuxtla? Miss Isabella?" repeated Korf with a doubtful look at the peacefully sleeping girl. "Why a woman, who only—you underestimate the danger!"

"This woman must come with us!" Burns said definitely, as though any refusal were impossible. "This woman is the only one who can reveal the mystery to us—more surely than telescopes and microscopes! Don't ask, Mr. Korf! I implore you, hurry! Every hour is precious—the misty hands are lurking in the depths—!"

Korf stood motionless. His thoughts were confused. He was trying to resist the appeal of this uncanny, this incomprehensible, affair.

Isabella stirred and opened her eyes. The first glance of her soft eyes met Korf—with a pleading, imploring look.

As though in a dream Korf took up the telephone and got a connection with Berger.

## CHAPTER XVIII

### Buddy

"I beg your pardon, sir!"

Silently the boy slipped up to the old grey-bearded gentleman, who was sitting in an immense armchair hidden behind a mountain of pamphlets and papers. The splendid reading room of the Claridge Hotel was almost empty at this hour.

The old man did not immediately reply. His mind, off in distant fields, seemed to be slow in returning to his corporeal surroundings. At last he turned his head.

"A lady desires to speak with you, sir."

"A lady? He looked at the clock. It was almost nine. "Who is it?"

"Miss Kingsley, sir!"

The old man looked up in astonishment. "Miss Kingsley? All right, please conduct the lady to my parlor."

"Very well, sir!" The boy vanished like a shadow.

Shaking his head the old gentleman assembled his papers, reached for his stout cane, which was his constant companion everywhere, and strode heavily through the hall to the elevator. A moment later he opened the door of his parlor.

"Good evening, dear Mr. Nielson!" came a greeting in a sweet, girlish voice. "How are you? Are you vexed at my disturbing you so late in the evening?"

With both hands the old man grasped the slim hand of the tall, beautiful girl. Above the collar of her half-open jacket loose strands of her blond hair strayed out.

"How could you ever disturb me, dear Miss Buddy? I'm always happy to see you. How lovely you are!"

With laughing eyes Buddy looked into his kindly old face. Then she turned.

"I've brought someone else with me," she said, with a gesture of introduction. "This is Mr. Patson from Queenstown. He just recently returned from the forests of Mexico. You know—he was with Sir William Burns in his expedition."

Nielson now for the first time noticed the young man, who hitherto had remained aside in the dark corner and now stepped closer. The Irishman's chubby face beamed cheerfully.

"Even if we never met before, Mr. Patson," said the astronomer, cordially, "we've long been well acquainted, haven't we? Miss Kingsley has given me much pleasure by bringing to me the helper of Sir William."

Patson bowed silently. Buddy sat down. When the full light of the lamp fell on her youthful face, it did not escape Nielson's notice that there was deep sorrow in her blue eyes.

"Well, dear child," said he, after the formalities were over, "what brings Mr. Patson and yourself to me?"

"Tomorrow afternoon you are returning to California, Mr. Nielson. You will first make your official farewell visit to Lord Kingsley, and I shall be there, but I shall have to keep silent. Yet——" Buddy lowered her eyes in embarrassment—"I have so many questions to ask you, Mr. Nielson. I've been looking for you a long time. But you were always busy with meetings or in seclusion at Greenwich. This evening is my last chance! Excuse me for venturing to visit you here in the hotel before you leave!"

"I have been very busy, it's true, but I should always have found time for you, dear Buddy. I'm very curious to know the nature of these important questions."

"I suppose you already know what they are, Mr. Nielson. This uncertainty is terrible! Please tell me, where is Sir William?" A tear shone in her long lashes.

Nielson thoughtfully folded his hands and looked seriously at them. "How should I know, dear Buddy?" he replied after a while. "Of course, when he started out into space with August Korf, he wrote to the Institute himself before leaving, and it was in all the papers. I know nothing since then. I'm very much surprised that he succeeded in going at all."

"You know more than all the others, sir! What you don't know, you can figure out. Please speak, sir!"

Nielson could not suppress a smile. "You have too high an opinion of the power of mathematics. Calculation alone won't serve to solve all the riddles of the world."

Buddy did not give in. "But you have ideas, sir. Your hypotheses are always correct. Why did Sir William go with Korf? Off into these worlds I can't even imagine—where death lurks all around?"

"He is inspired by a dream which thousands have. He is the first technical archaeologist to go with Korf. Burns can and will afford great services to science. He will conduct the excavations in the lunar ice and—"

"And will not return!" sighed Buddy despairingly.

"Don't be faint-hearted, child! The dangers which he will encounter are no greater than those which surrounded him in the tropical forest. I have great confidence in Korf's skill. Sir William will return, and a certain faint-hearted girl will then be proud to stand at the altar with one of the most famous scientists of the world—" He said no more.

### Some Possibilities

BUDDY'S head had sunk down. The long-restrained tears were running down her pale cheeks. Her voice trembled as she said to Patson, "You tell him, Mr. Patson!"

The Irishman looked confused and embarrassed. In comfortless sorrow his face twisted into his eternal smile.

"I tell you, you're wrong, Miss Kingsley! I wish I'd never said a word about it! I assumed Mr. Burns had already told you about it. He forgot to do so. It's incomprehensible! I don't understand it myself. Think of it, dear Miss Kingsley—Sir William, the British peer, and the Indian girl! Quite unthinkable! I—oh, that cursed stone from the moon is to blame for everything—it's nothing else!"

Gradually Buddy became calm, and Patson managed to tell a connected story. Beginning with the meeting in the sunken city in the primeval forest, he told of Señorita Isabella de la Cosa, of Tuxtla's flight, of the puzzling capsule of bone, and of the events on the Atlantic.

"A mad story, God knows!" he exclaimed. "But the most interesting point is that Mr. Burns guessed just right! As you know from the last news from Friedrichshafen, the Mexican girl was actually picked up by the space ship *Venus*. Doubtless she has already met with Sir William somewhere in space."

Patson ceased speaking, and for a while there was silence in the room.

"What do you say to that, sir?" asked Buddy in a dull tone. "What does it all mean? I've seen the strange stone from the moon. It was all terrible. William was so disturbed, I hardly recognized him. He is possessed—by this witch! Sir, I came to you because my father is so reserved—a person cannot speak freely to him. Mr. Nielson, help me!"

For a long time Nielson stroked his beard. Then he said, calmly, "There are signs and wonders—even today in the fourth decade of the twentieth century. My old head can no longer take them all in. But I do know one thing—Sir William is a man of honor, and you know that too, and that should be enough for you."

Buddy gave him a thankful look.

"It seems to me," Nielson went on, "that this — this—"

"Tuxtla!" said Patson.

"That this Tuxtla is one of those rare beings who,

without knowing it, possesses capabilities transcending our ordinary powers to perceive. I may remind you of the mysterious lore of that Russian woman, Madame Blavatsky, who decades ago excited equal wonder and mirth. There must be something to it. When she was in trance she repeatedly told of long-forgotten times and conditions, which on rigid scientific examination proved to be accurate accounts. We have, as yet, no scientific explanation for this kind of power. Anyone that believes in the Indic teachings might regard it as upholding the theory of reincarnation, and say that there may be persons who in an unconscious state can occasionally recall their former conditions of life."

"But in that case all people would have to experience such recollections more or less strongly."

Nielson smiled slyly. "Years ago I was talking with a jester about these things. He claimed that somewhere there was a great jar in which souls were kept—a world reservoir of souls, so to speak. The souls returning from earthly bodies that had just died all went back to this jar and were all mixed up with the other souls. When a new being saw the light of day, then a spoonful (as it were) of soul-material was taken from the jar for its corporeal representative on earth. As a rule this spoonful of soul-material contained the most varied constituents of previous souls, and none of these parts was strong enough to impress itself on the person's consciousness. But in very rare cases it happened that so great a portion of one previous soul fell to the lot of one individual that it could make headway against the other parts. Hence historical second-sight."

Buddy could not help laughing, in spite of her grief. "That's a very clever jest, Mr. Nielson!" she said.

"I have often had occasion to think of this joke—especially two years ago, when the Swedish medium, Christa Orloff, made the most startling revelations about old Vineta. She related everything just as though she had herself been present at the downfall of that city of sea-rovers. The diving operations then commenced have confirmed her statements most surprisingly.

"This Tuxtla, in her spells, seems to look back into the earliest primeval times. Perhaps the stone from the moon is the talisman which causes or favors these strange conditions. Almost all noted mediums possessed such objects, which by their mere presence greatly increased their powers of second-sight."

"The stone had a very strange effect on me," said Buddy, shuddering slightly. "It seemed as though something strange and uncanny had entered the room—as though a cold breath from a sepulchre were striking me. Father too was startled. He hid his confusion by making loud jokes."

"Now you may well believe, Miss Buddy, that an investigator of archaeology like Sir William would show the greatest interest, if he met such a person and had this power demonstrated."

"But why did he say nothing, when—"

"He wasn't yet certain of the matter. A serious man doesn't like to speak of things that are still apparently uncertain and puzzling to himself. Besides, broaching such a subject to Lord Kingsley! You know yourself that our dear Sir William could not possibly venture to do it!"

### To the Morning Star

NEW hope shone from Buddy's eyes as she said, calmly and contentedly, "You are clever and good, Mr. Nielson. I do thank you. I knew you could solve any problem."

She grasped the trembling wrinkled hand of the old man.

Nielson stroked her blond hair. "How young you are, Buddy!" he said. And suddenly Buddy looked up, while new uneasiness flashed into her eyes.

"But why doesn't Sir William come back? The expedition was to be for only a fortnight. There has been no news for weeks. Where can he be? What do you think, sir?"

Nielson shrugged his shoulders. "For the time being there is no work being done on the moon. The site of excavation is now in darkness. The lunar night lasts two weeks. Either Sir William is spending this time in the stationary space ship, circling around the earth—in which case he would have been able to send word via Friedrichshafen—"

"Or else?"

"Or else he's gone on a new voyage of discovery with Korf."

"A new voyage! Where?"

"I can only give you my guess. Listen!" Nielson leaned back, half-closed his eyes, and spoke slowly, as though addressing a great audience. "Since the congress I have watched the stationary space ship day after day—or, to put it better, night after night. About three weeks ago I noticed near it the dot of light of what seemed a fairly large rocket. It impressed me on account of its brightness, and I made a few observations of position.

"The first calculations did not give a clear result. Certainly the thing was moving, much faster than previously observed space ships, in the plane of the ecliptic and in fact exactly opposite to the motion of the earth. It was apparently propelled by tremendous power. Not until the observations of the following nights could I get a perfect Kepler gravitational curve*, a fact which proved that the ship was now freely subject to the cosmic forces, with no propulsion of its own. The Lick Observatory and the Michigan Observatory took observations that confirm my own. The last observation was sent from Cape Town and this too agreed with my calculations. The flight curve of the space ship is determined.

"Now it is far beyond the range of our terrestrial optical aids. Nobody on earth can follow the course of the dot of light."

Breathlessly Buddy and Patson gazed at the speaker.

"And this voyage is going to—"

Nielson wiped his brow. "It is Korf's first flight into the depths of the solar system—far, far from the earth and the moon—the true flight into infinity. The calculation of the path shows an extended ellipse, the point closest to the sun being between the orbits of Mercury and Venus. Without doubt this flight is to the morning star."

Buddy sat still in horror. She found words only slowly. And William is in that ship!" she said in repressed anguish.

Patson scratched his head. "I'd give a lot to be there! Damn!"

"I recall again," went on Buddy softly, "how William said to me: 'It seems to me as if this sacred sym-

* Nielson referred here to Kepler's Law which postulated that the squares of the periods of revolution of two freely moving bodies around a third were in the ratio of the cubes of the distance from the third body. By observing the period of revolution of Astropol around the earth, Nielson could calculate how far away the body was and whether it was moving in a closed orbit or was approaching or receding from the earth. In the present case by calculating on the motion of *Journa* he discovers that it is not moving in an orbit about any planet.

bol, which signifies the tree of life and the sign of Venus, were pointing out into space!' The frightful power of the stone from the moon has taken possession of him!"

She covered her face with her hands. "Mr. Nielson—how long—"

"Many months!"

"Months!" groaned Buddy. "God keep him and—her!"

## CHAPTER XIX

### Ellipses in the Solar System

THE revolving floor of the observation dome of Astropol was humming softly. The vast throng of stars was motionless, as was the immense disk of the earth hanging in the black sky.

Berger did not heed these things. He was already too well accustomed to the impressive sight. With his right hand he was adjusting the great telescope, while his left hand held to his ear the receiver of a telephone.

Electric currents carried the pointing of the instrument over to the solar reflector floating far off to the side of the station and directed its rays parallel to the line of vision of the telescope. One more turn of the fine adjuster, and a tiny gleaming dot stood motionless and without twinkling at the cross-wires of the eyepiece.

"All ready?" called Berger into the telephone.

"All ready!" was the reply.

"Give the word!"

The great solar mirror began to operate. Its countless facets turned in the network, casting thousands of flashes of light out into the infinite distance, where they united at one point.

Berger did not take his eye from the glass. "To-day we can already use more than a hundred hectares of mirror surface!" he remarked contentedly to Dr. Finkle, who was watching the experiment with interest.

"And will they be able to see this signal?"

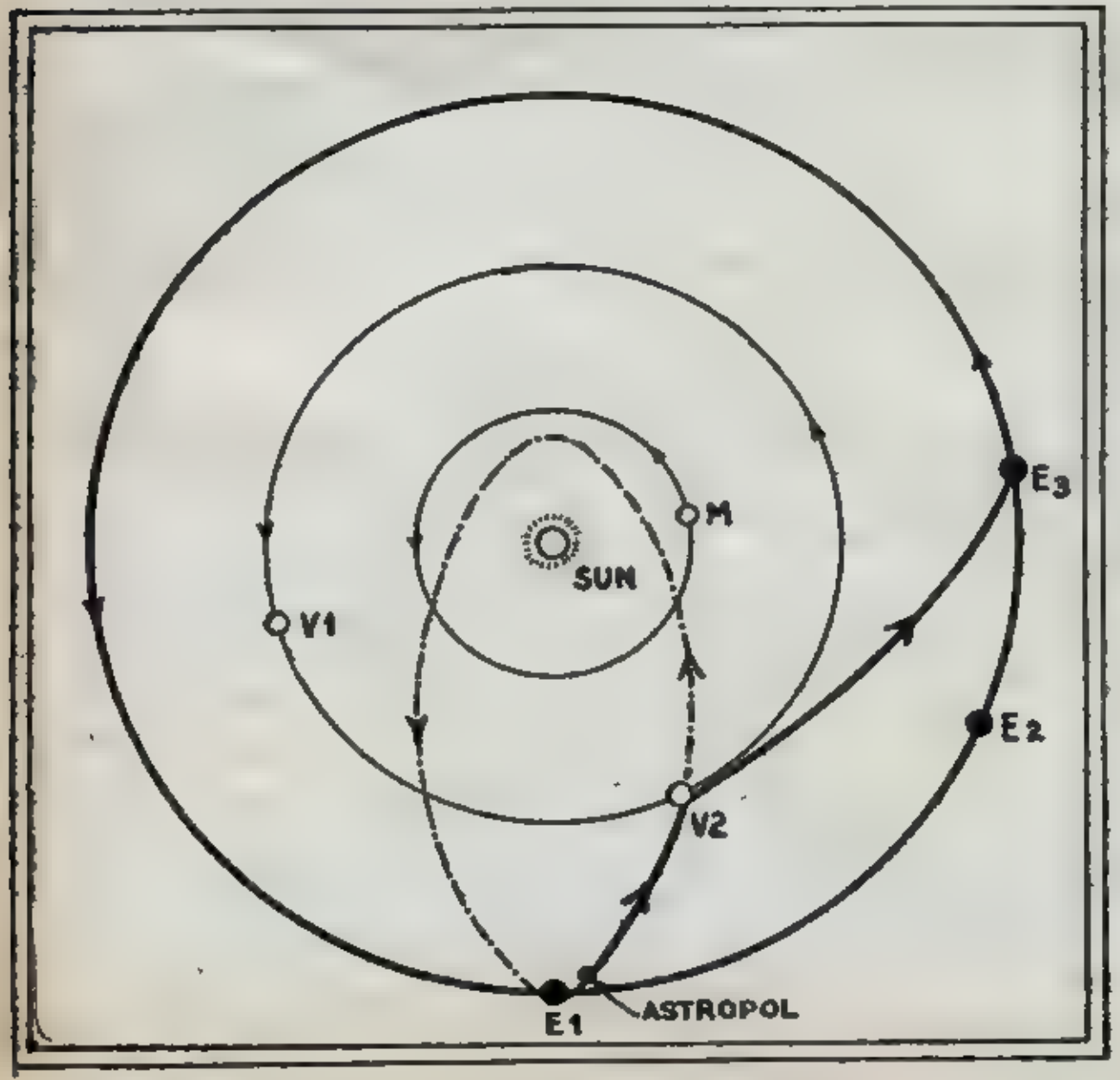
"I hope so. Korf will keep a sharp watch on us. The time is exact. Of course we can't keep up this light communication much longer. The speed of the *Icarus* is constantly increasing, and its distance from us is increasing also day by day so that we can't keep up in our increasing of the range of the reflector. Probably Korf with his relatively small telescopes will be unable after a few days to see even our most powerful signals. Oh—Oh!—they are answering!"

There was a weak flickering of the dot of light in the eye-piece. Its brightness changed in an almost imperceptible degree. Berger noted down the dots and dashes, and Sam painfully translated according to the international code of terrestrial stations.

"Understood—everything all right!" This sentence was repeated three times.

Again the facets of the giant mirror of Astropol vibrated. The sign-off flashed out to the speeding space ship.

"Hm!" said Sam. "But why was it uncoded! Quite against all the custom of the Korf Space Ship Company. Anyone possessing this code can simply read off the signals along with us!"




Illustrating the journey of the space travelers from Astropol to Venus. E1 shows the earth and V1 Venus at the beginning of the journey. Starting from Astropol, the *Icarus* goes in the direction of V2. This is the place in the orbit of Venus where that planet will meet the space flyer. The dotted lines represent the rest of the orbit of the space flyer around the sun if it continued on. Now, while the space flyer has been traveling to Venus, the earth has been moving in its orbit and when the flyer reaches Venus, the earth is at E2. By making calculations of the time required for the return trip the space flyer is sent along the curved path between V2 and E3 and will meet the earth at E3.

Berger laughed loudly. "To be sure, Doctor, if they see them. Depend upon it, no observatory on earth can now see either the *Icarus* or even its signals. The twenty million kilometers* which now separate Korf from the earth are the best protection against any spying."

"Then we are, so to speak, just among ourselves!" replied Sam with a grin.

Berger read from the scales the pointing of the telescope, calculated for a while, and then made entries on a curve plan.

"I hope the fuel doesn't give out on this fearfully long flight!" said Sam, struck by a feeling of anxiety.

Berger shook his head. "Since the starting maneuvers Korf has not fired a single directional shot. The *Icarus* is describing its calculated course like a lifeless heavenly body, without using any mechanical power, and on the fifteenth of August it will cross the orbit of Venus. So far the journey is going according to plan."

"Well, going to Venus, so close to the sun, is a bit different from the excursions to the moon or up here to Astropol. I don't know—I don't entirely trust this flying to the sun. I hope he doesn't burn his wings, like his eminent precursor, Icarus. Anyway, giving the ship the name *Icarus* is just like challenging the gods to do their worst!"

"My dear good Doctor, it seems to me you haven't yet quite comprehended the matter."

"I freely admit that I haven't!" said Sam honestly. "But that's much less important than the fact that Korf has perfectly understood everything."

"The trip to Venus is really just as much a matter of calculation as of engine power. One can't simply set out, headed for Venus. In a few days the star of Aphrodite would be Heaven knows where, and the strongest rocket motor wouldn't help."

### Berger Explains

"DON'T you think that one could catch up by using very great speeds?"

"No, quite the contrary! Too much speed would actually be dangerous to the space ship. It would be forced into a course leading away from the sun, and one could calmly give up all hope of ever reaching the destination. If there's ever a point to the proverb 'Blind zeal leads to trouble,' it's here in the solar system."

"But I'm still curious to know how a flight to Venus is actually possible!"

"First think—then calculate—then start! Woe to the cosmic navigator who relies on the power of his rocket motor alone! You know that the earth and its old and new satellites, along with all the rocket ships whizzing about, are going around the sun, travelling at the same time about thirty kilometers** a second."

Sam grunted, which Berger took to be a sign of assent.

"Just imagine that this speed of the earth," he went on, "should be decreased by some gigantic power."

"I am imagining it."

"Then our planet would leave its orbit and fall toward the sun or rather around the sun in an extended ellipse, the vertex of which moves nearer the sun, the more strongly the motion of the earth is braked. If one could bring the earth entirely to a standstill, this ellipse would shrink to a line; that is, the earth would simply plunge straight upon the sun. Do you understand that?"

"It's comforting to think that even Korf can't bring that to pass!"

* About 12,000,000 miles.
** 18 miles.

Berger smiled. "No, he can't do that. But he can brake a small part of the earth, for example a space ship!"

"But listen, my dear Berger! The *Icarus* steamed away from here at a tremendous speed, and here you are talking about braking!"

"To be sure, it went more than ten kilometers* a second! But it was exactly opposite to the motion of the earth! And that's just the same as though he had braked the thirty kilometers** a second of the earth's motion down to twenty, isn't it? Therefore he was left behind by the speeding earth, and when he had escaped from its rather narrow field of attraction, he swung gradually by himself into the calculated new ellipse, through which he is now speeding with silent motors as an independent solar planet. Thus, just as our former rockets to the moon curve through the field of gravity of the earth and the moon, the *Icarus* is now pursuing its curved course in the field of the sun."

"And if it had no more fuel?"

"Then it would keep circling about the sun in its present orbit. Every two hundred and twenty days it would complete the circuit, which would bring it alternately within fifty million kilometers of the sun and then back again into the orbit of the earth three times as distant. This would keep on until it got within reach of some planet's power of attraction."

"What planet?"

"Mercury, Venus, or the Earth. The rest never come into these regions. The ellipse of the *Icarus* extends from the orbit of the earth to that of Mercury. But since the orbit of Venus lies between these two, the path of the *Icarus* has to cut that of Venus. It is so calculated that Venus and the *Icarus* come to this junction point at the same time and with the same speed. That's the whole secret of going to Venus. Korf will intentionally let himself be caught by Venus, and what else occurs will be determined by the conditions he finds there."

"And the return trip?"

"That takes place in exactly the same manner. Only then the speed of Venus must not be braked but increased, in order to force the space ship into a curve carrying it back again to the orbit of the earth. Of course, it's not enough to bring the *Icarus* simply back to the orbit of the earth. It must cut the orbit at the moment the earth is also at the junction point. But all that is no magic, merely a very pleasant calculation. Indeed, without logarithmic tables the *Icarus* would not come back again."

"But this increase in speed must require immense amounts of energy."

"No more than the braking at the start from Astropol. It's a matter of indifference whether one produces a certain speed or destroys by braking the same speed already existing. It's simply a question of direction. Korf merely starts from Venus in the same direction in which this planet is moving and then adds independently the speed of the space ship to that of Venus."

"On paper that all looks very fine, but—"

"The *Icarus* has gone on exactly the course reckoned on paper. This proves the accuracy of Korf's calculations, and we can calmly leave all the rest to him. Don't take your brother-in-law too lightly!"

"I can tell you, my dear Berger, the entire cosmos is already weighing on my neck, and I shall be happy when—"

"When you, day after tomorrow, are at last sitting once more in Mother Barbara's café in Friedrichshafen,

* 6 miles
** 12 miles

protecting the various Rhine and Moselle wines from destruction, Doctor!" put in Berger with a laugh. "Well, you can. A tank ship is leaving tomorrow."

Sam fiddled with the tobacco pipes in his pocket. "Heaven be thanked! If I'd suspected, back in Caldera, when you so kindly invited me to make a one-day trip to Astropol, that I should be kept a prisoner up here so long, then I should certainly have declined to take your noisy ship, and —"

"And you wouldn't have reached Lake Constance a bit sooner, Doctor!"

## CHAPTER XX

### Close to the Goal

FOR weeks the squat cylindrical hull of the *Icarus* had been ploughing through the silent wastes of space. The vast, silently swinging station of Astropol had long since vanished from the sight of the voyagers of Venus. Even the silvery moon had shrunk to a dot beside the disk of the earth and had then disappeared in the incredible distance.

The very earth receded more and more, and gradually the disk changed into a gleaming point—only one star among the many; distinguishable from the rest merely because of its greater brightness.

The white-hot ball of the sun floated unchanged in the black infinity. No night came comfortingly over them, no day broke with new hopes. It was an eternal, senseless monotony! The chronometer recorded the hours and days and weeks, but nobody paid much attention. The idea of a day became a mere abstract quantity of time.

The start and powerful impressions of the first few days of the trip had kept the passengers in feverish excitement. But gradually the tension lessened, and the frightful loneliness weighed mountainously on the little group of human beings snatched away from the earth.

More and more frequently, burning eyes stared yearningly out of the round windows of the ship at the shining star which stood for the world—where there was night and day, rain and sunshine, where human beings lived, with all their cares and joys.

But all this lay far behind, with all communication broken off. No cry and no flash of light could now reach over to the infinitely distant home.

Horror crept on silent feet into the cabins of the *Icarus*.

Korf took great pains to provide distraction for his companions. In clear, vivid lectures he disclosed the cosmic connections of the worlds. He devised all sorts of new social games. He organized swimming contests in the air inside the weightless ship. But all this could not banish the slowly growing apathy.

The most delightful pleasure was taking flights out into space from the ship. In inflated rubber suits the occupants of the Icarus circled free from all weight about the lonely ship. But the necessity of being sparing with the air supply made it impossible for Korf to permit this excursion very often.

The worst thing was the lack of regular occupation. The space ship was speeding along its cosmic path with silent motors. There were no engines and no steering levers to tend. Even the watchman was superfluous. What could happen out in nothingness?

There came near being strife about the slight work in the electric kitchen. The sailors sought for it, in order to be able to have a regularly recurring activity. And perhaps the fact that the preparation of the meals was given over exclusively to Isabella was the real reason why the Mexican girl stood the monotony of the sixty day voyage better than the rest.

Even Korf, the spatial navigator accustomed to flights in the infinity of space, often had to combat recurring attacks of complete indifference and depression. He breathed more easily when the laterally approaching and steadily increasing disk of Venus became large enough to warrant a real interest.

On the sixty-fifth day after the start the morning star was already so close that its disk was larger than that of the sun. With the naked eye they could see the wads of mist, which were moving from the sunny side of the planet to the dark side, passing along incessantly in close succession. It was but seldom that the shining white covering of clouds showed rifts and holes, through which they had an indistinct view of the solid ground.

"An inhospitable region, Miss Isabella!" said Burns to the Mexican girl, who hours at a time watched the disk which was almost perceptibly increasing in size.

Burns and Isabella always spoke English. Korf, when conversing with his guests, likewise made use of this language, out of regard for the mestiza's slight command of German. It suited him that the crew should not understand the conversations in the control room, and he also welcomed the chance to strengthen his own knowledge of English.

"These constantly swelling mist formations are so—so uncanny!" answered Isabella. "I don't know—why."

"To be sure, they make it hard to observe the surface of Venus, and it would be a shame if we had to return without being able to settle the age-old controversy of scientists about the constitution of the morning star. That there are clouds on Venus is no secret to the terrestrial observer."

"Do you think these formations are ordinary clouds?" put in Korf.

"Aren't they?"

"I surmise that these wads don't consist of water vapor but of millions of tiny needles of ice—a sort of fine ice drift, produced on the sunlit side of Venus by the direct vaporization of ice. Under the pressure of the constantly increasing masses this ice-fog gradually moves to the shadow line and is again precipitated on the dark side by the action of gravity. If Venus were so tiny a star that it could not keep the ice clouds sufficiently to itself, they would be forced further out into space by the pressure of the sun's radiation, and Venus would then exhibit a tail just like a comet."

### Isabella's Fears

ONE of the sailors appeared in the cabin door. "Miss de la Cosa, it's time to serve the second meal."

His voice had a harsh sound, like the barking of a dog.

Isabella shuddered. With a shy glance at the man she whispered to Korf, "For the present I should like to give up my work and turn it over to the cook."

Korf was amazed. He gave the necessary orders, and when the man had disappeared, he asked, "Doesn't it please you any longer to care for our physical welfare, Miss Isabella?"

In embarrassment the Mexican girl looked at her yellowish finger-nails. "Oh yes, I was glad to do it. I was so happy about this little work. But I'm afraid of —of—"

A suspicion came to Korf's mind. He had long feared it.

"Two of the sailors have been eyeing me for some time in a suspicious manner!" went on Isabella unwillingly. "And to-day before breakfast—" she stopped speaking.

Korf's brow was wrinkled. "Were you bothered by anyone?" he asked sharply.

The girl nodded almost imperceptibly.

"By whom? I'll punish the scoundrel!"

Isabella made a gesture of negation. "Never mind, Mr. Korf! The people no longer know what they're doing. Henceforth I shall avoid the kitchen and remain near you or Sir William."

Burns watched her anxiously. He silently reproached himself for having practically forced the taking along of the girl.

Korf suppressed his wrath. "It's hazardous for a woman to be shut up this way for months with a crowd of men," he said in a concerned tone, "but I shall be able to protect you."

That they were quickly approaching the sun now became evident to the explorers. The rays of the glowing disk, now thrice its usual apparent size, blazed through the windows of the *Icarus*. All the occupants wore dark glasses to protect their eyes from the excess of light. The strongly reflecting layer of white mist about Venus increased the brilliance noticeably.

After two days Venus hardly presented any longer the appearance of a star in the sky. Its masses spanned the firmament in a wide arc. If every sensation of up and down had not already been destroyed during the weightlessness of the free flight, there would have been the impression that the *Icarus* was falling from an infinite height obliquely down to the solid ground.

The little satellite speeding around Venus had long since been recognized in the telescope. Korf had determined, to his anxiety, that its distance from the surface of Venus had again been reduced, so that it was barely one hundred and fifty kilometers away. Its orbit was quickly shrinking and had changed to a fine spiral, which was bringing the little body closer and closer to the planet.

The landing plans were settled. Landing was first to be made on the satellite of Venus. With the big *Icarus*, which moreover was not built to withstand atmospheric resistance and had no wings, it would be impossible to descend close to the surface of Venus. It was to gravitate in a constant orbit about Venus, just as Astropol did about the earth.

For the actual expedition a small lunar rocket had been taken along as a "boat." This steel torpedo, eight meters long, was resting with folded wings in a side room of the *Icarus*, especially built for the purpose and enclosed airtight. This room could be reached from the control room by a pneumatic door. A larger door of the room led straight out into the open.

This auxiliary rocket held only three persons. Korf of course wanted to undertake the flight himself, and he had settled on Burns as his companion. But who was to be the third man? This question had already been the subject of frequent stubborn arguments. Korf had definitely refused the request of the archaeologist that Isabella be allowed to go.

"This expedition is dangerous and demands real men! It's no undertaking for a woman!" he said, when the proximity of the goal made it necessary to decide.

"You underestimate a woman's energy!" replied Burns. Then he risked the final argument: "Shall I remind you of the deed of the boldest of all women—the deed of Natalka?"

Korf was silent. "Natalka!" he thought. "She paid for her daring with her life—her young, blooming hopeful life!"

"No, no!" he said aloud. "I can't take such a responsibility upon myself."

Then a melodious voice came to his ear, like the soft cooing of a dove. "And can you take upon yourself the responsibility of leaving me defenceless among these lustful sailors?"

That settled the matter. Korf hesitated no longer.

The planet came closer and closer. From time to time Korf measured the visual angle of the crescent of Venus and calculated from it the distance. When the *Icarus* had come within fifty thousand kilometers, the rocket exhausts were started, in order to brake the speed of falling and to force the space ship into an orbit about the planet.

The recoil, which had not been felt for weeks, threw everything down. The passengers suddenly felt the weight of their limbs again and groaned at the pressure. But after a few minutes the motors were again silent. The *Icarus* was floating freely about the planet at a height of forty-five thousand kilometers. Venus had suddenly acquired a second satellite. Weightlessness had been restored. It was now the moment to act.

Korf had no more instructions to give. Everything had been discussed to the minutest detail, and each one knew exactly what he had to do. The five sailors remained under the command of the eldest—to stay on board the *Icarus*, under strict orders that they were under no circumstances to alter the gravitational path of the space ship.

The rocket was again given a careful inspection and was provided with fuel and food for five days. Then Korf, Burns, and Isabella crept through the port-hole at the point of the rocket.

After a last word of admonition to the temporary commander of the *Icarus*, the double door of the port-hole was closed and fastened from within. The crew then securely fastened the door from the interior of the ship to the room where the rocket had been kept. A valve was turned at the outer door of the room, the air left the room with a whistling sound, the outer door opened, and slowly the slender torpedo left the body of the mother-ship.

For a while it remained beside the *Icarus*, not far away. Since both ships were freely subjected to the effect of the neighboring planet, they floated, relatively to each other, motionless, and seemingly without any effect of gravity.

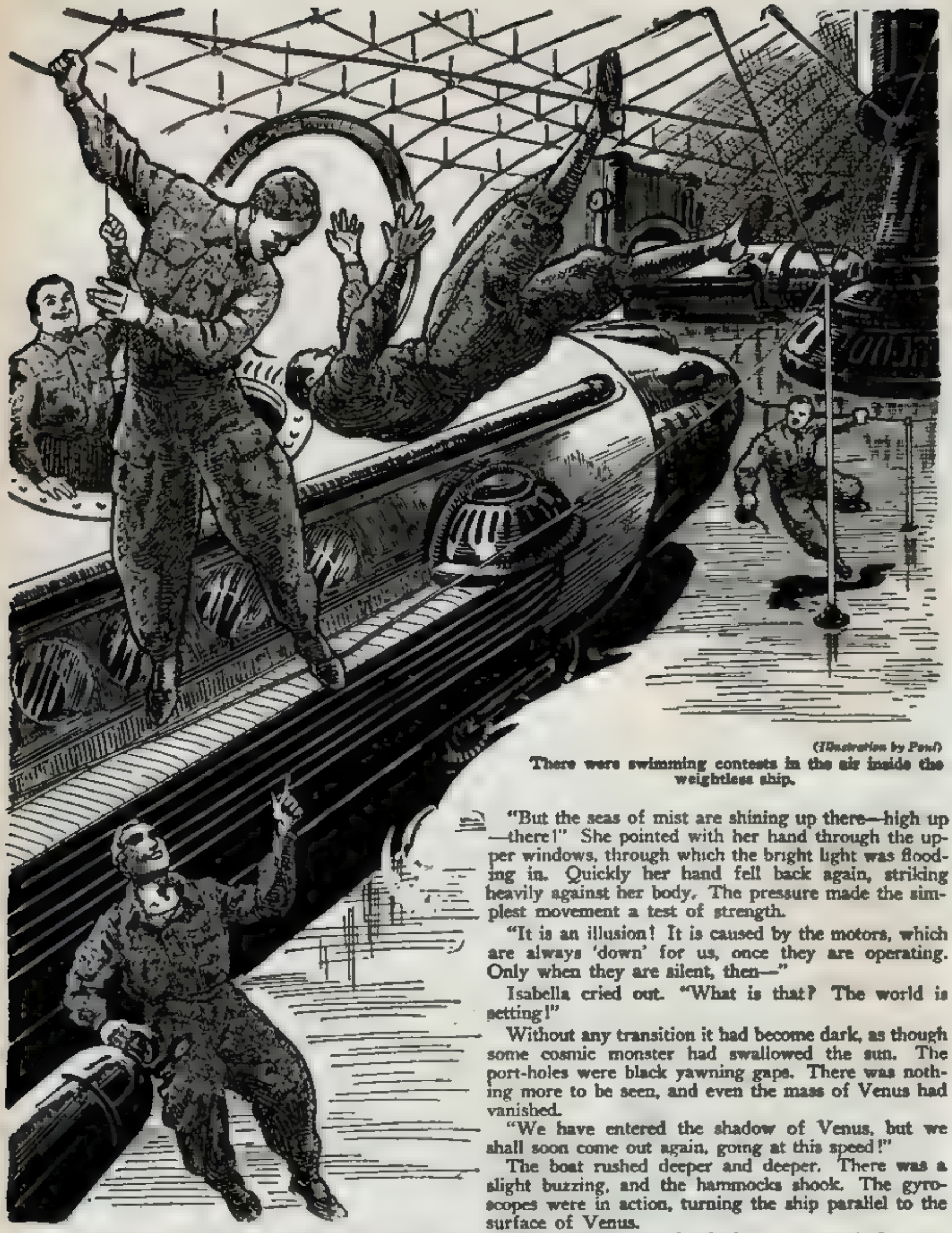
The wings of the rocket spread out to their full extent. In another moment the exhausts shot hot streams of gas out into space, and the boat shot away toward the solid ground, in an oblique course.

## CHAPTER XXI

### Ghosts

CLOSE together lay the three people in the hammocks of the narrow, arched control room of the little rocket. The springs stretched and groaned under the pressure of the exhausts in action, and the weight of their own bodies was oppressive to the passengers so long used to weightlessness. Through the upper windows they saw the shining crescent of the planet spread out near-by. Apparently it was becoming longer and narrower.

"Up to the shining morning star! Up to heaven! It is splendid!" cried Isabella, trembling with excitement.



(Illustration by Paul)
**There were swimming contests in the air inside the weightless ship.**

For an instant Korf's glance left the levers and scales. "You are mistaken, Miss Isabella. Not up—we are going down to solid ground—in an oblique fall!"

"But the seas of mist are shining up there—high up—there!" She pointed with her hand through the upper windows, through which the bright light was flooding in. Quickly her hand fell back again, striking heavily against her body. The pressure made the simplest movement a test of strength.

"It is an illusion! It is caused by the motors, which are always 'down' for us, once they are operating. Only when they are silent, then—"

Isabella cried out. "What is that? The world is setting!"

Without any transition it had become dark, as though some cosmic monster had swallowed the sun. The port-holes were black yawning gaps. There was nothing more to be seen, and even the mass of Venus had vanished.

"We have entered the shadow of Venus, but we shall soon come out again, going at this speed!"

The boat rushed deeper and deeper. There was a slight buzzing, and the hammocks shook. The gyroscopes were in action, turning the ship parallel to the surface of Venus.

After half an hour the shadow was passed. For several minutes the passengers shut their eyes to the returning dazzling light.

The icy mist was now piled up at the side, like a

vertical wall which towered up to the sky from the infinite depths. It seemed as though the ship were shooting up this wall—ever onward—ever higher! Nothing but shining white mist, sinking downward, wherever the eye might look!

The gyroscopes hummed more and more often, and single impulses from the motors corrected the course. Now a powerful pressure weighed on their chests, and now the three persons floated weightless from their hammocks. Thus hours passed. Twice more the ship in its ever nearer course about Venus went into the shadow and came out again into light.

Isabella could no longer endure the sight of the icy mist rushing by. She closed her eyes.

The shining point floating before them over the sphere of Venus became larger.

"A strange thing!" said Burns, who was looking through the telescope. His voice shook with excitement. "It looks like—like a damaged dirigible. It is deeply dented in the middle. Certainly this little star has nothing in common with a revolving sphere. What do you think?"

He gave the glass to Korf.

"In fact," the latter agreed, "it looks like a double loaf of bread, as my good Uncle Sam would say. The loaf is completely iced over. Have you noticed that it keeps the same side turned toward the planet? And—it has rifts in it. There—I see perfectly. There is a great split yawning in the middle—on the side toward Venus there is a dark rounded spot, as though the point had been broken off. That is right—a smaller bit is floating a little to the side. The disintegration has apparently begun. Sir William, I believe we are arriving at the last moment. We are just in time to witness the destruction of a heavenly body. To be sure, it is only a small one, but we shall nevertheless experience a spectacle such as human eyes have never before seen."

"But how can this formation simply break up that way?" asked Burns thoughtfully.

"Who knows for how many thousands of years this fragment has been rotating about Venus? It is extremely tiny and is therefore more subject to the resistance of the air than greater masses would be. Its orbit has decreased, coming nearer and nearer to the centre of attraction, in imperceptibly finer spirals—coming only a meter or so closer in perhaps scores of years. The attracting power of Venus, constantly pulling on it, has gradually distorted its form, pulled it out lengthwise, and stopped its axial rotation. That is just how it is with our moon. Now this satellite is close to the point at which its solidity is no longer enough to balance the constantly pulling forces. The centrifugal force of its orbital course presses outward, while the effect of the planet pulls inward: it is bursting asunder. The fate of a satellite! It is a question of that deep depression in the middle. The fragments may for a long time still rotate about each other in the original orbit, subdividing again, until—" He paused and looked at the indicator which showed the reading of the barometer outside. "See—the external pressure is a fifth of a millimeter! We are already brushing against the extreme edge of the atmosphere of Venus."

"Is that dangerous?"

"Not for us. But it is for that thing over there! The resistance of even the thinnest layers of air can so hasten the decreasing of the orbit that the satellite will quickly get into denser layers, and then there is no more stopping it. I do not know how far things have gone already—I cannot make any exact measurements in these seas of ice and mist."

### The Strange Satellite

THE rocket kept nearing the tiny satellite. The telescope was no longer necessary.

"Now it is time to get into the space suits. Be quick! Soon I must fire the braking shots, and then the pressure will return."

Pale but calm and eager, Isabella put on the shapeless covering of rubberized leather. Burns put on her head the massive helmet with the air-cartridges and the microphone, and screwed it to the metal collar. In another moment he himself was also dressed. Korf likewise got into a suit, in case of emergency, though it was his intention to remain in the rocket. The telephone cables were connected up and tested. There was now no other way for the passengers to speak with one another, once they had been sealed up in their airtight suits.

"All ready?" asked Korf.

The replies of Isabella and Sir William sounded in the receiver.

"Now," said Korf, "as soon as our speed is exactly that of the satellite, you will slip out. There is no danger. You will not fall. You will gravitate along side by side, free and weightless. I shall take care of the guiding of the rocket and shall at once attend to any variations in the speeds which might occur. Well! The little moon cannot be more than twenty meters long. We must brake our course! Otherwise we shall shoot by. Get into the hammocks!"

The exhaust was already pointed in the course of flight. Three and four times the bluish stream of gas shot forth. The mysterious satellite came very close—but its distance away decreased more and more slowly—and then it stood still, a few meters to the side of the rocket.

The exhausts were silent.

Burns and Isabella crept out through the double door. At the outside of the rocket the Englishman connected the stout cables, the ends of which were fastened to their belts, running from there to the speaking apparatus in the helmets.

The girl fought hard against dizziness. She was seized with an oppressive fear of the dreadful abyss separating the rocket from the satellite. Burns quickly grasped her leather-covered hand and sped with her away from the steel wall of the ship. The two shapeless figures floated freely across like inflated rubber balloons. The cables unwound behind them like glittering snakes.

Korf's glances went back and forth between his companions and the indicators of the measuring instruments. He saw how Burns grasped the jagged edge of the central rift, crept into the split, and drew Isabella after him.

"The satellite is hollow!" murmured Korf to himself, and confused thoughts and speculations went through his mind.

The cables ran out. The investigators seemed to be moving ahead inside the uncanny body. What would they find?

Ice splintered under the Englishman's grip, wherever he placed his hand. It was a while before his eyes became accustomed to the semi-darkness. He saw slabs split off, partitions torn up, a wild confusion!

Everything was crusted with ice! His foot struck something, and walls crumbled away. He picked up a fragment and lifted it to the eye-piece of his helmet. It was wood—deep black ebony—with the fibres still recognizable.

His heart beat wildly. Wood, part of the vegetable kingdom! How did it get here? Human beings? Inhabitants of Venus? It was a puzzle beyond solution at present. He did no more thinking. His whole being was in his eyes. He wanted to see—to see and determine facts! After that he would put them together!

He looked for his companion. She had crept ahead. Far into the interior of the satellite of Venus. Forward!

He followed her, slipping through an irregular opening. Again bits of ice crumbled. Then it became brighter. At a glance he took in his surroundings. His heart stopped beating for a moment. Was he dreaming, or was all this a phantom of his excited imagination?

It was a long arched room—with crumbling walls—with rifts showing, through which the sun shone. The walls were covered with black—ebony! In between were shining yellow places—metal plates set in. Burns scratched off the ice. Pure gold flashed forth. Gold!

There was something shaped like an altar—on a red marble base—on it was a figure, likewise of gold! Ebony, marble, and gold! Treasures of immeasurable value, buried here in silent space!

Remnants of strange pieces of furniture floated up from the floor, startled from their eternal sleep by the touch of a human hand.

What did all this mean? Burns glided along as in a dream.

Then a dreadful shriek vibrated the diaphragm of the telephone. With chalk-white face, Burns paused in horror.

### What the Satellite Revealed

WHAT is that, there in the corner, fastened by golden clasps to a narrow couch? A body! A dark yellow face, with the oblique almond eyes wide open as though in mad terror! A woman! Tuxtla! Cold sweat ran down Burns's back. His mind was in a whirl.

No—no—Tuxtla was still in the rubber suit. And this woman with the Mongolian face was dead, a corpse packed in ice! Could this be a human being, or was it a ghost?

Again the diaphragm vibrated. "Huitaca!"

It was not a human sound. It was the last cry of a departing soul, with a muffled sound as though from a sepulchre. Seized with horror, Burns stared about him. Where was Tuxtla? There—another body—another—four—five! Mummies coated in ice!

They moved slightly, as though protecting themselves against the intruders into their thousand-year-old grave in space. Everywhere almond eyes stared at Burns! All the bodies had long heads and dreadfully distorted faces! Everything danced about him, like spectres from hell!

Korf's voice sounded in the receiver. "Come back! At once! The air is becoming denser! A crash is threatened!"

"Tuxtla!" cried Burns in frightful excitement. "Do you hear? Come back! The misty hands—!"

Mayan words replied, the calm melodious voice of the daughter of the Incas. "Who is calling?"

Burns saw her now. She was clinging to the wall, close to the entrance. Her arms were about a projection, a casket set in the wall.

"Quick! Come back! Danger!" panted Burns, as he came up to the girl.

Tuxtla was staring fixedly at a golden plate above the casket. On it was crudely engraved the likeness of a man's head, with a long skull. On the brow was a sign. The Englishman bent forward. The sign was a symbol—a cross—on it a circle.

Burns muttered, "The sacred hieroglyphic—the symbol of the stone from the moon!"

Below the likeness were signs of some sort—strange characters, somewhat like phonetic symbols. Burns thought he recognized them. Like a flash recollection came to him. These crude scratches meant "King Botschika," nothing less!

Again Korf's voice sounded. "Come back—quickly, for God's sake! The orbit is disturbed! We are falling—plunging down! Not a second to lose!"

Tuxtla did not move. Burns put his arm about her to pull her away from the casket, which she was clasping with both arms. Then came half understandable Mayan words in a hissing voice: "Who dares to lift his hand against the Queen of Thula?"

Burns understood. Horror came over him. It was madness!

"Back, you dog! Into the dust before your queen! Huitaca commands it!"

Burns did not answer. With force he pulled back the body of the girl. Tuxtla's strength seemed multiplied. She fought like a mad woman. The Englishman could find no hold. Everything he grasped crumbled and gave way.

There was a fearful silent struggle for life! The walls were becoming hot. A slight pressure from below was becoming evident. Weight was slowly returning.

Korf kept speaking into the microphone, hastily, in mad anxiety. The Swabian's iron nerves were shaken. "Come back! For Heaven's sake! It will be too late! It is too late! The satellite is falling—carrying the rocket with it—destruction!"

Burns let the girl go. It was no use without something as a hold. He could not get her loose. Were they all to perish, or she alone? What a frightful decision to make!

An idea! The cable! Back to the rocket! Pull it taut and then haul her in! He glided back as fast as he could.

Outside the air pressure forced him aside. But the atmosphere was still thin! The rocket was still floating close by. A leap, and Burns was standing between the double doors, madly pulling at the cable, on which Tuxtla was hanging.

Korf had his hand on the gas lever. The clouds were rising toward them from below. If he should start the rocket, the cable would break and Tuxtla would be lost. But in a few moments they would be in the denser layers of air, and all would be lost.

He pulled open the inner door. The air escaped from the space ship, but he paid no attention. Now everything depended on the space suits.

He pulled Burns inside and seized the cable. Both men pulled with all their might. The cable seemed to have caught in the rifts of the satellite. Already whitish mist was surrounding the ship. It was in the ice clouds. The steel walls of the rocket began to make a noise from the heat of friction.

Suddenly, over around the satellite, there was a

hissing sound. The ice crust was melting! It had cracked! The fragments had a bright glow! Steam rushed forth.

The cable yielded. At the end was Tuxtla, convulsively clutching the casket in her arms. In five seconds more the body of the girl was drawn in. The double door slammed. At the same moment Korf's hand shot to the gas lever. Full power!

Five streams of fire shot downward, bending under the air pressure like the tail of a comet. The free fall became slower and slower. Far below the glowing fragments of the satellite of Venus hissed and vanished. The little star was no more.

### Down to Venus

WITH blazing eyes Korf looked downward. The surface of Venus was approaching at a tremendous rate. The ship continued to fall!

Was their height enough to bring the fall entirely to a stop and then rise again? The exhausts were doing their duty, but could they overcome the mad speed of the fall?

Korf's brain worked like lightning. Each second the speed was thirty meters less. The exhausts had been working for three minutes. That meant that the free fall had been checked by the amount of five kilometers per second already. But it was not enough.

He looked down again. Only a few thousand meters above the ground! Down below, white shimmering patches stretched out, crossed by dark lines. Directly below was a black spot with sharp edges. It was increasing in size at an incredible rate.

Was it a lake? Water? Hope gleamed in the engineer's steel blue eyes. He compressed his lips. If he dared try the last expedient!

For two seconds more he waited. Then he pulled the gas lever around to the last notch. The exhausts no longer crackled. They howled and shrieked. They thundered and shot cosmic forces down at the land below. The hammocks were torn by the frightful pressure. Their lungs could no longer lift the weight of their breasts. But it was successful!

The dreadful recoil braked the fall in the last second, bringing the rocket almost to a standstill just above the surface of the water. It gently sank the last meters, just like a falling leaf.

The fiery streams of the exhausts shot into the water. Immense clouds of steam arose. Then came a crash.

Nobody felt it. Unconscious, crushed by the monstrous pressure, the three travelers through space lay on the floor. Water washed high up on the windows, with the effect of drawing green curtains across the glass. The exhausts were extinguished by the water rushing in.

Outside there was a gentle rushing sound of the water boiling against the walls. The space ship again came up to the surface, became steady, and rocked for a while on the waves it had stirred up.

Then it became still all about—deathly still.

## CHAPTER XXII

### Ice

DIMLY, like the coming of dawn, consciousness returned to Sir William Burns. Fiery arabesques danced before his eyes, and a piercing pain was throbbing in his temples. He opened his eyes and raised his head a little.

There was a dull light all around. What time could it be? Was it time to get up? That scamp Rugby had again forgotten to wake him. That chap was too fond of going out at night; he needed a sharp watch kept on him.

Burns felt very thirsty. His throat was parched. He rose painfully and reached for the electric bell, to ring for his breakfast.

But what was all this confusion? Heavens, how this sleeping room did look! Above was an arched dark wall, like the inside of a barrel. There were round windows in it, through which a greenish light was entering. He stared about uncomprehendingly.

Damnation! How his head felt! What had gone wrong the evening before? And how still it was! No automobiles were rattling by, and no tramway was thundering along the rails.

He extended his arms and stretched his body. Then he took a couple of steps. He came near falling down. The floor was concave, and it had windows in it—seemingly of white glass. Behind was a vertical flat wall, but it was circular. The smaller front wall was as round as the cover of a tin can!

Thoughtlessly he looked out through one of the windows. There was a wide expanse of ice, with dark pools and lakes scattered about in it. Further in the background were flat, pale green hills—heaps of ice—with places between looking as though they had been strewn with flour.

Strange! Where could he be?

The sky was grey. The sun floated in the mist like a glowing ball, two hand-breadths above the horizon. It was large. The disk was strangely large, but it did not dazzle the eyes. Its rays could hardly penetrate the whitish mist above. Sometimes the sun shone brilliantly through, then again it paled out to a dull brassy disk.

There was a pale greenish light over the wastes of ice. But it was not twilight; on the contrary, it was very bright! What did all this mean? There was not a breath of air outside. Everywhere it was deathly still!

Burns began to think hard. It was difficult for him to do so. His head was buzzing atrociously. Very gradually memory returned to him. The *Icarus*—the strange satellite of Venus—falling—

He drew a deep breath. It had all been a dream—a devastating dream of fever—a terrible pressure—

Heaven be thanked that he was awake!

But this narrow room here? It was certainly the vertically-placed observation room of the little rocket! There—the levers—the hammocks—the torn springs tied together by cords! He started suddenly. Tuxtla!

In one of the hammocks lay the Mexican girl. Her breast rose and fell evenly. One arm was wrapped in bandages. Her black hair had fallen in confused strands over her face. But Heavens! The lovely dark face of the daughter of the Incas was yellow—as yellow as the faces of the ghostly mummies!

Burns's teeth chattered as though in a fever. Then it was not a dream! The horror was reality. At once complete, clear recollection came back to him.

He stepped up to the hammock. The girl was fast asleep. For a while he stood motionless, until he collected enough strength to endure the memories which were filling his mind.

This icy waste outside was Venus, then. It was the storied morning star, which had been the desire of the tender brown creature. And the earth was far away,

(Illustration by Paul)

They were nearing the strange satellite of Venus. The outer door opened slowly the slender torpedo left the body of the mother ship.

infinitely far. A tiny dot in the leaden sky—that was home!

Again he looked through the port-hole. No human foot had trodden the ground outside! A shudder went through him. How had he got here? It was right—the fall! He remembered the dark spot in the depths below. "Water—a lake!" Korf had cried. That had saved them.

But where was the water? Far and wide there was nothing but ice, shiny ice in the deadly stillness. There were merely a few little pools in it. Korf must have been mistaken. No lake!

A horrible anxiety seized him. Was the rocket damaged? Were they imprisoned on this star, destined to slow death amid the world of ice? Would they never again see the earth and mankind?

He wavered. One single thought filled his mind—one single hope: Korf! Where was he? Dead? Then all was lost!

"Korf!" he screamed. Mortally afraid, he looked about. Korf was not in the rocket.

There was a noise outside. A shadow passed the forward port-hole. The double door opened, and a man in a diving suit entered. It was Korf!

For Burns it was a veritable salvation. Korf had barely removed his heavy helmet when the Englishman rushed up to him. His arms went about the strong man, and tears of joy shone in his eyes. "Korf! You are alive! Heaven be thanked!"

"I am a bit alive still!" cried the Swabian cheerfully, striking his arms together to warm himself. "You too, it seems to me! Indeed, it was a close shave. The grim reaper was never before so close to me! If we had not plunged right into the lake, it would have been all over with our glorious expedition!

"Into the lake?" said Burns with a doubting look. "I do not see any lake!"

"There was one! While we were sleeping off our adventures, it froze over. Too bad! It will be hard work to dig our ship out of the ice."

Korf stepped over to Tuxtla and looked at her a while. "I think we need not worry," he said. "Except for the slight burns she appears to be uninjured."

"Burns?"

"They are really wounds from the cold. Somehow she scraped off part of the sleeve of her pneumatic suit. The chill of space got in through the thinned fabric. You know that extreme cold has the same effect on the skin as great heat. It is not bad. In a few days it will be all healed. Let us permit her to keep on sleeping."

### Venus!

IT suddenly struck Burns that he had not been dressed in his diving suit when he awoke.

"Did you take off our helmets and suits, Mr. Korf? I mean, Tuxtla's and mine," he asked with a grateful look at the blond giant.

"Of course! It was high time. Luckily I woke up before we all suffocated together. The oxygen cartridges in the helmets do not work forever. Likewise, the interior pressure in the rocket had sunk to three hundred millimeters. Now everything is all right again."

"I shall never forget this, August Korf. You have taken off our suits, repaired the hammocks, put us comfortably to bed, and—"

"Oh, do not speak of these trifles! The fact that I came to myself five hours ahead of you is due to chance, for which I am not responsible."

"Then you have been working here for five hours?"

Korf nodded. "The wings had a bad time of it. They are half melted together. I forgot to take the things in during the fall. In starting from here we must rely chiefly on the exhausts. If Venus had as dense an atmosphere as the earth, not only the wings but also the walls would have melted like a candle at Christmas. Some of the intermediate ribs of the main exhaust are also destroyed. That was because of the sudden cooling. That can be repaired after a fashion. But one of the four auxiliary exhausts is entirely split. Well, we shall get up again with the others and the main exhaust.—But now I am as hungry as a wolf. How about you?"

In boundless admiration and gratitude Burns looked at the man who mastered all difficulties. All his cares vanished when Korf spoke. Waves of vital energy flowed from this man of action.

They opened a few tins of preserved food. While they were eating, Korf said, "Wouldn't you like to feel the ground of Venus under your feet?"

Since there was no reason to worry about Tuxtla, Burns gladly consented. A few minutes later both men, with new air-cartridges in their helmets, were climbing down the outer wall of the rocket. Since the barometer indicated only one hundred and twenty millimeters, that is, a sixth of the terrestrial air pressure, remaining in the open without diving suits was dangerous. Probably it could be done only after years of systematic practice.

The two men were connected by a telephone wire, as usual. The boat stuck fast in the ice, one fourth of its volume being buried. The bent wings stood out on both sides barely a meter above the smooth surface.

"How could the entire lake freeze so solid in this short time?" asked Burns thoughtfully. "At home it takes weeks of the extremest cold to cover a pond with ice thick enough to support people."

"I will show you right away," replied Korf. "Come."

With long strides he hurried to one of the little pools. He stopped a few meters from it.

"Take care! Do not disturb it!" he said, while he crept to the edge of the water.

Then he took from his pocket a large condensing glass, held it toward the sun, and directed the brilliant focus of light on the motionless surface of the water. In a few seconds it steamed at the point of radiation, and in a flash the whole pool was boiling. Thick steam surrounded the two men. Involuntarily Burns stepped back.

"You can stand there in perfect safety!" said Korf with a laugh.

"But the water is boiling!"

"Of course! But just look at the thermometer!"

Korf held a little tube in the densest steam.

"See—eight and a half degrees centigrade. We will hardly get scalded! The water is boiling cold!"

Soon the steam passed off and vanished entirely. The pool was filled with ice. Burns could not understand.

"That is strange! The water boils and freezes at the same time!"

"Quite right! The explanation is very simple. In the low pressure of the thin atmosphere of Venus the water does not boil at one hundred degrees, as with us, but at a very low temperature—about eight degrees. Therefore the freezing point and the boiling point are fairly close together, and the water has only the small

space between zero and eight degrees available for its existence. That is why liquid water is a sensitive and unstable thing on Venus. Below zero it becomes ice, and above eight degrees it becomes vapor, while the vapor soon freezes again to fine needles of ice. It is no wonder that there is very little water found on the surface of this inhospitable planet. To say nothing of oceans! Very little water vapor, too! You see, the vaporization withdraws so much heat from the site of boiling that right beside the boiling freezing commences, and the vaporization is soon checked. Yes, it is a strange region!"

"I wonder that the sun, which is much nearer to Venus than to the earth, is unable to melt these masses of ice. One would think that it would have to be hotter here than on the equator on earth."

"As you see, this is not so. Little heat penetrates the thick atmosphere, in fact not enough to melt the ice. The earth's thin atmosphere protects our planet but little from continual radiation of heat out into space. And conversely, do you know that on our earth the mean annual temperature would sink fully seventy degrees, if it suddenly lost its covering of air? Then there would be nothing on earth but ice, and it would be considerably colder than it is here. The radiation of the sun cannot do it all. A planet must profit by the talent lent it by the sun; that is, it must be able to keep the heat radiated to it. Our earth at present enjoys especially favorable conditions. It has dense air and great natural heat, while it is also close enough to the sun to receive sufficient heat from it. At the same time, it is sufficiently far away to suffer little from the spray of finely-divided ice which the sun sends into space in all directions by the force of its radiation. Be that as it may, the learned gentlemen will be able to concoct a flawless final theory on the basis of our observations."

For several hours the two men walked about in the neighborhood. Everywhere were masses of ice, broken places, mountainous piles of ice, little lakes and streams of water, which quickly changed into steam when the sun broke more strongly through the mists.

Nowhere was there a bit of solid earth, and there was not a trace of plant or animal life at all. A comfortless sight!

### The Riddle of the Universe

NOT a word was said at this time about the events on the satellite of Venus. There was too much that was new to see. On the long, tedious voyage back to the earth there would be ample time to discuss the strange adventures.

"The sun does not appear to set here!" said Burns, on the way back to the ship, as he looked dubiously at the giant ball of the sun, still floating in the mist a little above the horizon.

"Indeed, Venus seems to have no axial rotation now!" replied Korf thoughtfully. "That means that it always turns the same side to the sun, as our moon does to the earth. From the height of the sun, if we take the shadow line to be the equator, we are approximately on the thirtieth degree of latitude. It would interest me immensely to know how it looks at the solar pole. Probably one would find more water there, perhaps even—"

He stopped suddenly, shaded his eyes, and gazed intently toward the rocket. A cloud of white steam was rising behind the boat. Flashes of fire appeared through it.

"Heavens, it's burning!" cried Burns, in intense horror.

Korf did not answer. In great bounds he was racing over the ice, as fast as the heavy diving-suit permitted. Burns followed on the instant, and both men ran toward the ship, panting—ran for their lives. For if the rocket were destroyed, they would be lost in the icy wastes of Venus.

The rocket was moving jerkily. It seemed as if it were tearing at the surrounding ice, pieces of which were broken off.

"The lower auxiliary exhaust is operating!" cried Korf. "At one-quarter power! Hurry, for Heaven's sake!"

A suspicion crossed the Englishman's mind. The bow reared high up. Korf ran on like a race-horse, but Burns stumbled and fell, and the connecting wire broke.

The steam became still denser. The rocket slid back upon the trembling ice. It reared up once more, its bow rising into the air. The exhaust shot forth fiery flames.

Korf seized the wing, swung himself up, and climbed like lightning to the port-hole. One leap, and he was inside. There was Tuxtla, nestling by the switchboard! Her slender fingers were caressing the shining lever, as though in playfulness. Korf struck her brown hand, and the gas lever flew back. The boat slid along the ice a few meters farther and stopped.

Tuxtla's eyes gleamed wildly. She drew back, clenching her teeth. Two minutes later Burns stood before Korf, breathing hard as he pulled off his helmet.

"The gas lever!" panted Korf. "A finger's breadth farther, and the boat would have shot away into space!"

"And the riddle would have remained unsolved forever!" said Burns with a shudder.

"What riddle?"

"The riddle of the satellite of Venus—the mystery about Huitaca!"

A shrill laugh from the corner froze the blood of both men. Coming at this tense moment, it had a dreadful sound. Burns and Korf looked at each other, unable to speak.

"Do you recognize your queen, Huitaca?" Tuxtla raised her hand in an imperious gesture. "Down on your knees, you dogs, before the queen of the world!"

Korf sprang back. "What is that she's saying?"

"She is using the language of the Mayas—the last remnant of the Inca kingdom!" explained the archaeologist, in a low voice, and he translated the command of Tuxtla.

"This is insanity!" cried Korf, greatly shaken. "The poor creature! If only we had not taken her with us!"

"You call it insanity! What if it should be a revelation!"

"This madness is to—"

Burns nodded. "It will bring light into darkness! I shall attempt it!"

Korf turned away in silence. He reached for his helmet.

"Where are you going?"

"To investigate the exhausts. I think we are free. We have been spared the hard work of digging out of the ice!"

This was intended to sound humorous, but there was a note of horror in it.

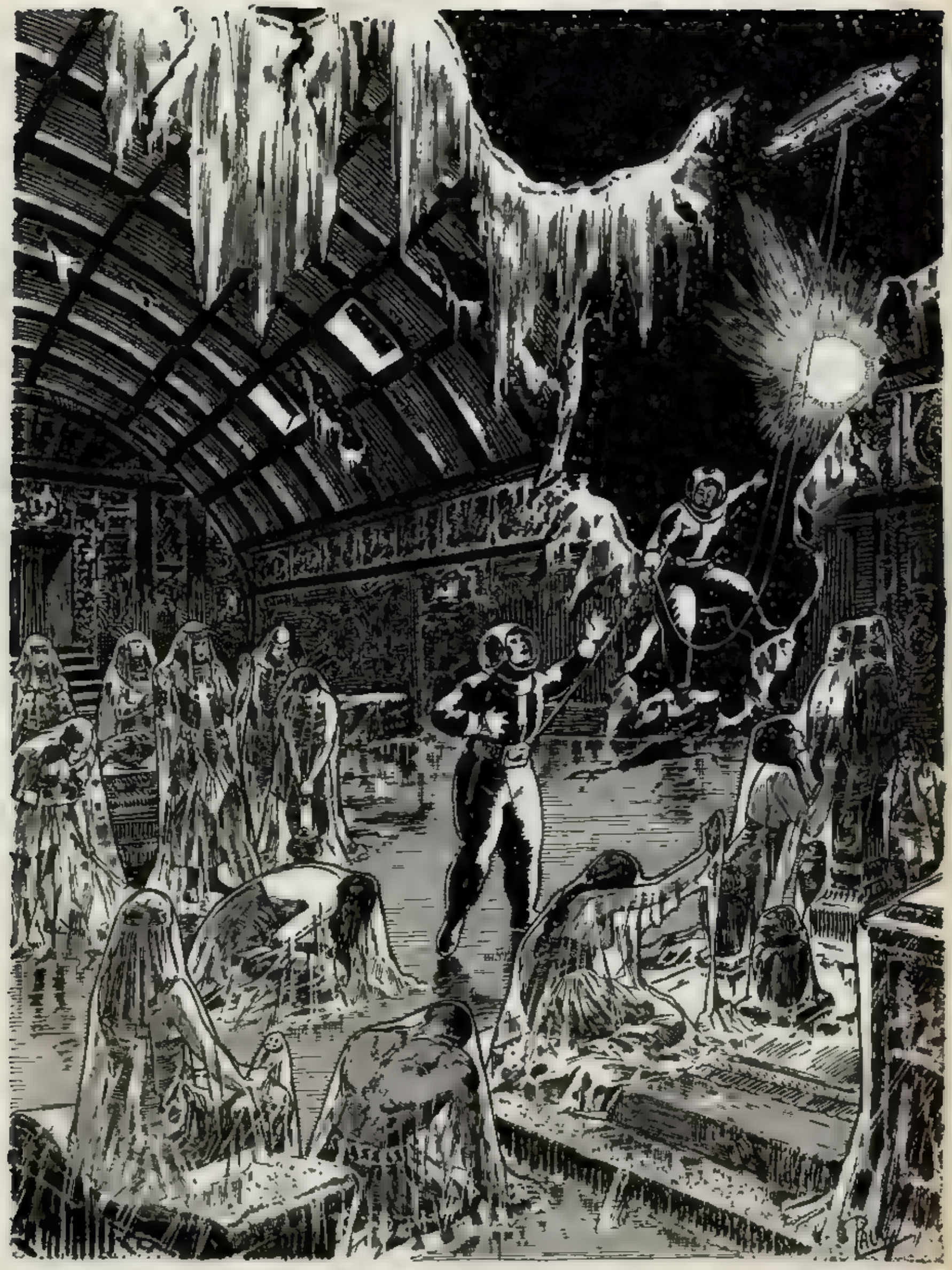


*Illustration by Paul*

**Seized with horror they stared about them. There another body—another—another—All mummies coated in ice. They moved ever so slightly. . . .**

## CHAPTER XXIII

### Anxiety

"JOHN!"

The servant turned sharply and stepped toward his fair young mistress. "Yes, Miss Kingsley?"

"Were you at—?"

John nodded significantly. A red flush rose to Buddy's pretty face.

"Where is Lord Kingsley?"

"In the library, madam."

Buddy stepped closer to the trusted old servant. "I shall wait for you in my boudoir, John!" she whispered.

"At your service, madam!"

Ten minutes later John was standing in the pleasant boudoir.

"Sit down, John!" said Buddy, in evident excitement.

"That's not proper, madam. Please permit me to remain standing." There was a slight smile on the withered lips of the servant, who knew how to preserve his poise under any circumstances.

"Were you in Pledge Street?"

"Yes, madam. Yesterday, after lunch."

"Well?"

"I had a fairly long conversation with Rugby."

"What did Rugby say?"

"That is probably less to the point than what I saw with my own eyes."

"You saw Sir William in person?"

"Yes. I was permitted to take his lordship's invitation right into the workroom and deliver it to Sir William himself."

"And what did you see? You *must* speak out!" Buddy stamped her little foot, impatiently.

Cautiously, weighing his words, old John began his story.

"When I entered, Sir William was leaning against the fireplace."

"How—how did he look?"

"Sir William seems to have done a great deal of work during the three weeks since he returned from Friedrichshafen. He gave me the impression of being exhausted and nervous."

"What did he say?"

"Nothing at all, at first. He made a sign to me to be silent, and I remained in the corner with his lordship's invitation."

"What was he doing?"

"He was making occasional notes in a little notebook."

For a second Buddy hesitated to ask the vital question. She was trying to hide her embarrassment and to appear indifferent.

Then: "Was he alone?" she asked.

Not a muscle moved in the stony face of John. "No!" he replied briefly.

Buddy pressed her hand to her beating heart. "Who was with him?"

"A woman dressed in a strange blue garment was lying on the sofa. Her skin was of a dark yellow color, and in her black hair she wore an ornament like a crown."

"What was she doing?"

"She was speaking to Sir William in a harsh-sounding language which I didn't understand."

"And Sir William?"

"He answered several times in the same language. It seemed to me he was trying to get her to talk. He listened closely to every word and wrote something in his notebook from time to time."

"What else did you notice?"

"On the desk there was a little black chest with strange decorations. If I'm not mistaken, the ornaments were of gold. Beside it lay a pile of thin metal plates. On the upper plate I noticed some incomprehensible marks and primitive drawings."

"How long did you stay in the room?"

"About three minutes, madam. Sir William was so absorbed in the conversation that for a long time he didn't pay any attention to me."

"Didn't anything else strike you, John? What did you think about at the time?"

"It's never a servant's place to think, madam!" he replied with dignity.

"Didn't the yellow woman do anything but speak? Didn't she *do* anything?"

The servant reflected for a moment. "At first nothing strange occurred."

"And then?"

"The foreign lady suddenly perceived my presence. She jumped up from the sofa and took a few steps toward me."

"What then?"

"She shouted some of the strange words and raised her hand as though to pledge me to something. It was very strange, madam!"

"What did Sir William do?"

"He took me by the arm and forced me to kneel down before the lady and to place my hand on the floor!"

"What did he do himself?" cried Buddy breathlessly.

"Sir William Burns did the same!"

Buddy buried her face in her hands and sank down on a chair. "Is he insane?" she whispered.

John shrugged his shoulders. "That is not for a servant to judge, madam!"

### Save Him!

HALF an hour later Buddy slipped into the library. Lord Kingsley was sitting at a table with his back to her.

"Father!" said Buddy. She was deathly pale, and her voice trembled with concealed anguish.

"What is it, darling?"

"Again Sir William has not come to dinner?"

The peer turned slowly in his chair. "It was my final invitation. Now it's over! Finished!"

"Why doesn't he come, father?"

"How do I know? Each time, Rugby telephones and says that Sir William is sorry that he's too busy to come. Lord Kingsley is no longer going to run after Sir William Burns, and Miss Kingsley will not, either!"

"Father!" sobbed Buddy, and her blue eyes filled with tears.

"I know, darling! It's hard. But you must forget him. He's not worth grieving about."

To Lord Kingsley this outburst of feeling on the part of his daughter was very painful. He was not an emotional man.

"Something must be done to save him, father!" stammered Buddy. "The yellow witch has enchanted

him! William is not bad! But he has fallen a victim to the black arts of the Indian girl. Father, if you don't do something, he will come to a dreadful end! Perhaps there is still time to save him."

"Save him? Save him from what?"

"From insanity, father!" she replied softly. Then she hesitatingly told him what John had seen.

* * * * *

For a quarter of an hour Lord Kingsley's costly automobile had been standing before Sir William's little house in Pledge Street. The cold, damp December wind whistled through the leafless trees and stirred up the puddles in the suburban street. Wrapped in an automobile robe, Buddy sat back in the seat. Her eyes were fixed on the wrought-iron garden gate.

Would he come? The minutes lengthened out to eternities. Buddy expected much from Patson, who had come with them and had entered the house with Lord Kingsley. Sir William would be less likely to shut himself up against his faithful friend than against the rough, blustering peer.

At last voices sounded from the front steps. Pale and wan, Burns walked through the garden in front of the house, accompanied by Patson and Lord Kingsley. Buddy's heart beat faster.

"You may be sure, my dear William, that we are eager to hear something more about your discoveries than is reported in the newspapers!" said the peer jovially, slapping his young colleague on the shoulder. "It was unkind of you to leave us so long in the dark, waiting for a solemn deputation to fetch you out of your seclusion to the light of day."

Buddy breathed more easily. Things seemed to have gone well.

"Pardon me, Lord Kingsley!" said Sir William, in the voice of a sick man. "I could not make any report, so long as I myself was still groping in the dark. My work did not admit of any interruption. The least disturbance might have broken the connection, and—"

The gentlemen had reached the automobile. Burns stood rooted to the spot when he saw Buddy.

"Well, everything in its own time and place," chattered the peer. "In thinking of prehistoric times we must not wholly forget the present, which cannot altogether be dispensed with."

"Buddy—you here—Miss Kingsley?" said Burns in surprise, and a fleeting color came to his cheeks.

The girl found just enough strength to hold out her hand and to whisper the customary salutation. "How do you do, Sir William?"

In the great dining room of Lord Kingsley's house, the table lamp was casting its cheery light on the little company seated there. Dinner was over. Glowing cigars blew fragrant smoke rings in the air. The beech logs crackled in the fireplace, and outside the wind shook the shutters.

### Sir William's Story

"YES, my dear young friend!" said Lord Kingsley, while the samovar was singing cheerfully. "You must now tell us all about it! Let us hear what wonders you've seen up there in the morning star—and over there in your hermitage!"

Buddy and Patson came closer. The archaeologist took a sip from his teacup and began his account—slowly and hesitantly, at first, but soon more confidently and with the inspiration of certainty.

"You have already been informed by Korf's publications about the objective finds and discoveries of the expedition to Venus. I can therefore confine myself to indicating the inner connections, so far as I myself am able to survey and understand them. Much is still veiled in mystery, and much will probably remain hidden forever. The little which now seems to me certain I owe—we owe—to the poor creature who is wandering homeless between the worlds and cannot find her way back to the present.

"Probably Patson has told you how I found Tuxtla. That I had before me in the mestiza a person with so-called occult faculties, was soon evident to me. But only from the moment when I possessed the mysterious moon-stone from her mother's grave did I feel those inexplicable bonds between the girl and myself—bonds in no way physical, nothing like what the world always suspects behind the friendship of a man and a woman."

Buddy lowered her blond head, and she did not notice that the man she loved sent her an affectionate look.

"It was as though there were some spiritual bond between us, as though neither could have lived without the other. Tuxtla, who previously had been openly hostile to me, followed me thereafter like a faithful dog, and determined the course of my life. She directed it into those paths which led to the solving of the deepest puzzle of mankind. She was a part of my soul, the complement of my spiritual ego."

*"Was!"* said Lord Kingsley in a tone of slight irony.

"Yes, was! A phenomenon of nature on the return trip suddenly rent the bond and severed the contact. Since then Tuxtla has been to me a pitiable or perhaps an enviable creature, the object of my scientific studies.

"We had to come together, the daughter of the Incas and I. She without me or I without her—in that case the riddle of the satellite of Venus would have been forever veiled in mystery, and the falling moon would have buried its secret beneath its ruins. Fate! It is fulfilled.

"Tuxtla, in a continual and perhaps permanent insanity, thinks she is Queen Huitaca, the last queen of a vanished monarchy. Perhaps she really is, or at least *was* that—once! What do we intellectuals know about the life of the soul?"

Buddy thought of Mr. Nielson and his story of the jar of souls. But she could no longer smile at this jest.

"She simply became insane!" said Lord Kingsley, harshly and almost brutally. "The adventure was too much for the nerves of a girl. You should never have taken Tuxtla with you. I can't help reproaching you, Sir William."

"You can never reproach me so much as I have reproached myself," said Burns with an expression of torment. "But perhaps it had to be so! Besides, Tuxtla did not go to Venus because of me—*I* went because of *her!*"

"Well, there's nothing that can be done about it now. But the girl must receive proper attention. I have in mind Dr. Bell's private sanitarium near Dover. She'll get splendid attention, a beautiful country, and fresh sea air there! To-day I've been speaking with Dr. Bell over the telephone. They will take her there in an automobile. She will lack nothing."

"You are right, sir! Tuxtla lives in a prehistoric past and must be protected against the hostilities of the present. In a few days more—"

"Well, my dear Sir William, that can hardly be! If I'm not mistaken, the girl is already en route."

Burns started up. "Sir, that is—"

"An intrusion, Sir William! Yes, I admit it. But you must see that it could not go on. All London is talking about the crazy archaeologist of Venus. What else is being said about you, I prefer not to repeat. Don't be angry, my young friend! It was done for your good. You must consider, if not yourself, at least the house of Kingsley—" He paused, as if he had said too much in his eagerness. "Besides, you can continue your studies at Bell's sanitarium."

Patson's eternally cheerful face bent over the table. "Where do these tablets come from, that I saw lying in your workroom? They remind me of the Maya manuscript in Dresden. I am very eager to know."

The good-natured Irishman had found the right means of averting the storm that had been brewing.

"They were in an ebony casket which Tuxtla saved from the falling satellite of Venus. To her alone belong the thanks of science. In that frightful moment all I thought of was our lives, and I left empty-handed a place that contained more wonders than all the graves of the Pharaohs and the Incas put together.

"These tablets, which I have thus far been able to decipher only in part, my own observations in the crumbling satellite, and, last but not least, the revelations of Tuxtla's soul, which returned into dim primeval times—all these together furnished me with the foundation for the reconstruction of a monstrous cosmic event, a catastrophe visited upon the earth some thirteen thousand years ago, of such vastness that the imagination staggers before it.

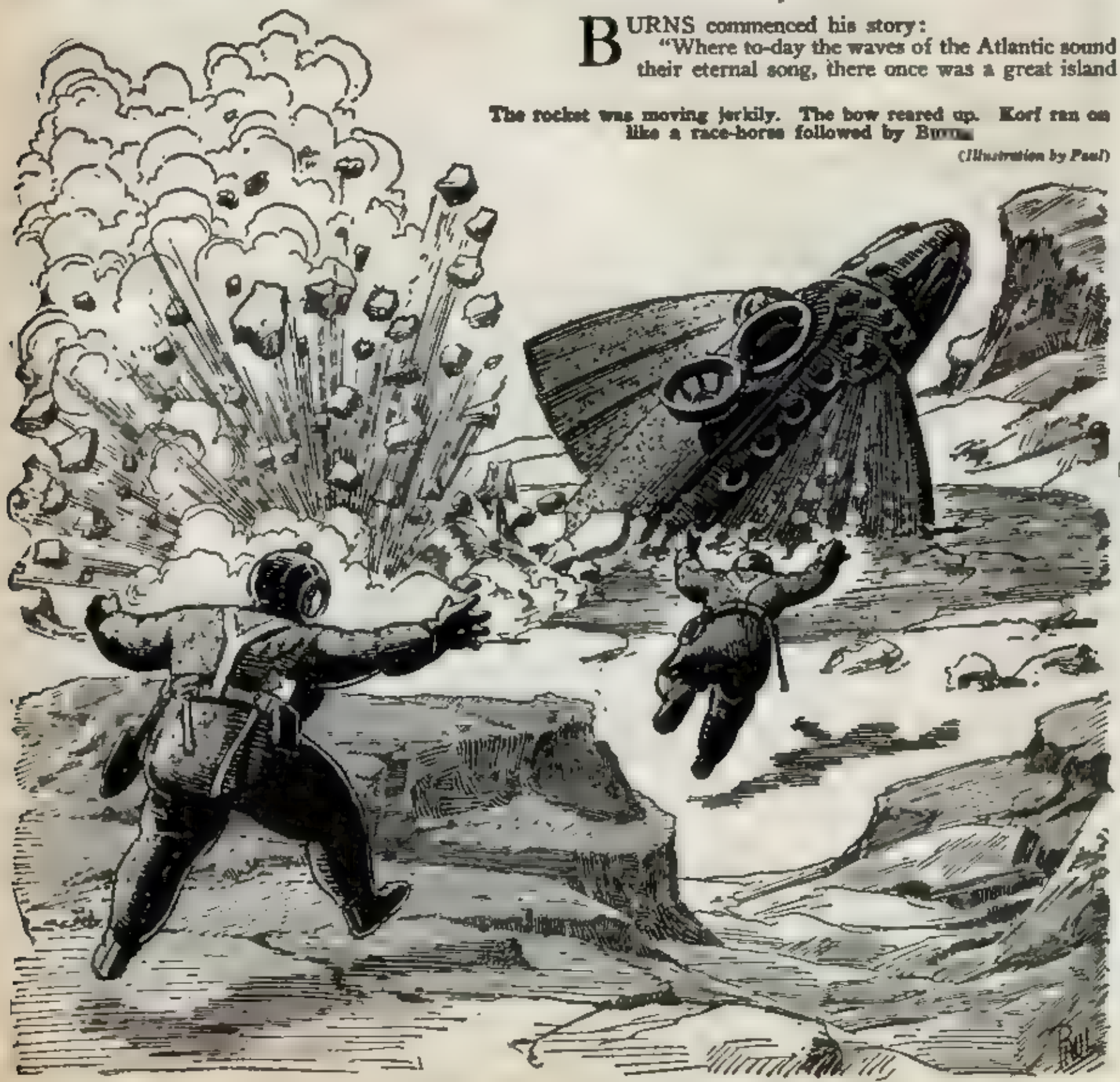
"I shall try to sketch for you a picture of this tragedy of mankind, which no poet could represent more dramatically. Where all research on earth remained fragmentary, the silent, icy, vastnesses of space preserved the knowledge for us. These and the God-given second sight of a human being have saved for us the knowledge of the destruction of the sixth continent—ancient Atlantis."

## CHAPTER XXIV

### Huitaca

BURNS commenced his story:

"Where to-day the waves of the Atlantic sound their eternal song, there once was a great island



**The rocket was moving jerkily. The bow reared up. Korf ran on like a race-horse followed by Burns**

*(Illustration by Paul)*

(Illustration by Paul)

**Intensified six thousandfold the sunlight blazes down to earth, down to the bottom of the ocean!**

kingdom stretching from the Azores to Central America.

"The largest of these islands, the storied isle of Poseidonis, lay to the west of the Canaries, by the tropic of Cancer. It was the original seat of the rulers of Atlantis, and in its hills was the capital city Thula, the 'City of the Golden Gate.'

"When, after the conflagration of the world, the lands of Atlantis came up from the retreating waves of the flood, a heavenly time began for mankind. The vertically placed axis of the earth caused eternal springtime. There was no perceptible difference in the seasons. No rude winter interrupted the budding and ripening of nature, and in luxuriant abundance there grew edible plants and fruits sufficient to satisfy the desires of all mankind.

"By day the sun shone warmly down upon the blessed land of Mu, and at night a sparkling starry sky was stretched above the peacefully sleeping people. Day and night were of equal length, and no moon brightened the darkness of the night.

"The people were far closer to the soil than is the case to-day. They ruled the mysterious powers of the earth—not through their knowledge, nor even through science, but through the nature of their own being—just as the snake charms the mouse by its glance, or as the bee, without knowledge or reason, protects its community by the natural law of instinct. So did mankind do instinctively what is right. Thus thousands of years passed by in Paradise.

"But gradually man began to think; he used his command of life to subject animals and plants to his desires, and to procure for himself unnecessary pleasures. The snorting horse of the steppes was harnessed and made the servant of man. The woolly sheep of the mountains were caught and robbed of their freedom. The docile cat was humbled to be the plaything of haughty man. Wild plants and fruits no longer sufficed for man. They were altered and blended and crowded together in narrow spaces. Finally, from the luxuriant vines of sunny mountain slopes, man got the grape-vine, the ripe fruit of which afforded an intoxicating juice.

"More and more did the men of Mu recognize their power over animals and plants, till at length they did not hesitate to try to subjugate also their fellow men of other races less advanced than themselves.

"But the more the people learned to think, the more their natural capacities faded. They rejoiced in their intellectual cleverness and did not realize that their former instinctive power was passing away.

"Only a few had preserved their control over nature, and in the deeds of these few the intellectual people now beheld strange wonders. With all their cleverness these intellectuals could not account for those very wonders which once they themselves had artlessly performed. But they sensed a lack in their own nature and so felt something like awe at the marvelous deeds of the 'illuminated ones,' deeds which they could no longer comprehend since they had become endowed with reasoning powers.

"Increasing understanding, however, impelled them to store up the fruits of the fields and the woods for hard times. Since intimate contact with the warp and woof of nature had been lost, reason had to create values and works that assured the continuance of mankind and the satisfaction of its needs, which kept increasing with the new creations of man's mind. But inasmuch as the powers of understanding developed unequally, the living conditions of individual persons also were unequal, and thus did private ownership arise.

"With private ownership there came among mankind envy, suspicion and disputes. Men no longer lived together in their natural condition, free from care and envy. It was necessary to preserve order artificially by laws which determined what might be allowed and what not, what was good and what evil. And thus arose morality.

"But since the force of the law always arouses a resistance, a central power was bound to arise to compel observance of the laws. And so from the priesthood came the king.

"Thus the increasing intellectual understanding of mankind on the one hand, and man's original power and control over nature on the other—waning, to be sure, but still effective in individual cases—came into a union. Combining with all the lavishness of nature in her springtide, they produced a culture which became the starting point of all the civilizations on earth.

"Atlantis!

"Last of the rulers in the gold-portaled city in Poseidon's isle was the priest-king Botschika, wise in nature's lore.

"Pure in heart and free from vain desires, he had preserved the remnants of that early power over nature spirits. As a symbol of this power, he bore in all the business of state a sceptre of ebony and gold, ornamented at its tip with an obsidian, one of those glassy stones which rained down upon the earth at the time of the conflagration, and which doubtless came from the nucleus of the disintegrated antecedent of our present-day moon.

"Engraved upon this obsidian on the sceptre of King Botschika was a symbol—a cross with a circle upon it—the sacred sign of life, the symbol of the daemonism of nature. . . ."

Burns paused in his narrative. No one spoke. Each thought of the strange stone from the moon, which the archaeologist had held in his hand a few months before in this very room. And there was silence until he resumed the story.

### The Stone from the Moon

"WHETHER this stone did actually have those mysterious powers is an open question. But the people of Atlantis saw in it a spirit of irresistible might, which must obey the owner of the stone.

"Relying on the power of this spirit, the mighty island folk undertook extensive plundering expeditions into the adjacent continents. The barbarians on the shores of the Mediterranean were subjugated. The militant arm of the haughty nation stretched farther and farther over the earth, and there arose a realm on which the sun never set. To the golden city of Thula flowed the wealth of all the world. Commerce flourished mightily, and the port of the island was filled with ships.

"In disgust, King Botschika had long since turned away from the activities of his subjects. He adjured the people to relinquish their vain dream and return to their pristine simplicity and contentment. But in vain! The intoxication of blood and gold had seized the ruling nation of Atlantis. No longer did the people heed the will of the king. They turned against the ancient ruling house. Under the leadership of the generals a revolt was plotted, and the most fanatical ally of the conspirators was the beautiful young Queen Huitaca, second wife of Botschika—the last queen of Atlantis.

"Botschika saw the catastrophe approaching. Whether he possessed astronomical knowledge, which enabled him to calculate the time of the cataclysm, or whether he sensed the inevitable because of his close touch with nature—who can say? Yet the warning voice of the priest-king remained unheard.

"Silently he went to work to preserve the civilization of Thula for the world. Everywhere he sent emissaries, peaceful bearers of the knowledge and power of Atlantis. His son Quetzalcoatl traveled westward to the lands of what is now Central America. As the white savior, he taught the red children of Zeos to build stone temples and houses. The king's daughter Batschue went to the Nile. There, as Icim or Isis, she founded the realm of the Pharaohs. Emissaries of Botschika penetrated even to distant Mongolia, everywhere spreading knowledge and civilization like bright sons of God.

"Wherever there is civilization to-day, its first root was planted by the colonizers from Atlantis. We need no longer marvel that in the primeval forests of Mexico the same pyramids rise up to Heaven as on the Nile; that the fauna and flora of America and Africa are so strangely alike; that in both places the seedless banana grows, which can be propagated only by means of slips. The banana did not cross the ocean by way

of Atlantis: it came from Atlantis both to America and to Africa.

"What would the civilizations of the world have been like, had another ruler than the far-seeing Botschika been at the head of the robber state about to perish?

"So time went on. The Mediterranean peoples had combined to free themselves from the yoke of Atlantis. Through long years of secret work they had equipped a gigantic fleet, which now passed out between the Pillars of Hercules and proceeded toward the island on which lay the golden city. The ships of the Pre-Hellenes covered the ocean farther than the eye could see. The battle was at hand.

"The leaders of the army and the fleet of Atlantis urged King Botschika to use his mysterious powers to destroy the attacking fleet by hail and lightning. For a moment the king wavered . . . Then he refused. He could not misuse the powers God had given him by destroying human beings.

"Then the revolution broke out, with beautiful Queen Huitaca at its head. In the stillness of the night she crept into the bedroom of her lord and king. From the sceptre she broke the daemonic stone from the moon, stealing it in a wild desire for power. She showed it to the people of Thula.

"Huitaca's eyes blazed in the mad intoxication of power. She raised the stone high above her head. In jubilation the crowds swarmed about the woman, raised her to the throne, and sank into the dust before the mistress of the world.

" 'Death to the enemy!' A single cry rang through the streets of Thula, from every throat.

"The queen's pale lips were distorted, as with convulsive gestures she conjured up the spirits of nature.

" 'Ye clouds, let lightning strike the hosts of the enemy! Let stones rain down upon them! Rise up, ye waves, before the ships of the enemy, and hurl them down to the bottom of the sea!

"The people of Thula shouted aloud. The sky grew black; dark cloud banks massed in the north; the storm burst with a roar and tore the clouds to shreds. Death to the enemy!

"Meanwhile, pale and distraught, Botschika stood on his observatory, at the top of a high pyramid rising at the edge of the city. The noise of the masses scarcely came up to him, the Seer, standing alone in his majesty.

"Had the fearful cosmic event, which he had long foreseen, actually arrived?

"Night set in, and with it came horror. A brilliant star flamed up strangely in the sky, growing in size as the beholders gazed. The glowing disk became greater and greater as it approached. It was the planet Luna!

"For thousands of years its orbit about the sun had been decreasing, as it came ever closer to the less speedy Earth. And in this night Luna had become subject to the attraction of the Earth! Pulled from its orbit in the solar system, it was rushing madly toward Earth, drawn along by its mighty sister—imprisoned, lowered to the rank of a satellite!

"This Moon plunged out of space like a flaming dragon, in a long-drawn ellipse. It came very close, its red hot giant disk seeming to brush the Earth. Then it shot back into space—again came closer . . . Thousands of years were to be required to round its orbit finally into that of the present Moon.

"But it was the first approach that brought the catastrophe. The surface of Luna burst under the force of attraction of the Earth. Water welled out from under the icy covering, spread into space as steam, and stretched out behind the speeding body of the planet-like tail of a comet.

"The Earth also was distorted by the force of its new companion. The Moon pulled together the waters of the oceans and lashed them on in vast spring tides, from the poles toward the equator.

"And even as the people of Thula were listening in delight to the effects of Huitaca's magic, there arose in the north a frightful vertical wall of water. Thunderously it rolled along, crushing everything in its path. A raging hurricane swept before it, tearing down the houses of Thula, smashing all the trees like straws. The mountains trembled, the tortured earth broke open.

"Shrieking and horrified, the people tried to flee. Mad fear consumed them as they groped their way in panic among the ruins of Thula.

"White-faced, Huitaca had seen her punishment approaching. In the last hour she took refuge with a little band in the great royal ship, which was floating in the bay of Thula, and set out for the open sea.

"For a few seconds the storm paused. Then the wall of water plunged onward and reached the city. With a mighty crash, the last remnants of human work were wiped out under the force of the elements. Hissing and boiling, the sea rushed over the land. On swept the waters toward the south, to the equator!

### The End of Atlantis

"MOUNTAINOUS waves and foam had taken the place of the once flourishing land of the Atlanteans!

"Huitaca's boat was carried swiftly along by the storm. Solidly built, not unlike a modern submarine, it stood fast. Not in the waves was the Queen of Thula to find a quick and merciful death. A more dreadful punishment was reserved for her.

"The bottom of the sea burst open under the mighty force of the Moon. Water entered the rifts and mingled, hissing, with the hot molten interior of the Earth, as it came welling out. The meeting of water and fire produced a gigantic submarine explosion, hurling land and water upward with incredible force, high into infinity. Huitaca's boat was carried along with it. Out into the distance it flew—out yonder, whence there was no return! The immense force of the explosion, surpassing all comprehension, had sent this fragment of the Earth out into space, with a velocity which carried it forever beyond the force of the attraction of the mother-planet.

"The queen's ship was caught by Venus, which was at that time relatively near the Earth in her course. It became the moon of the morning star.

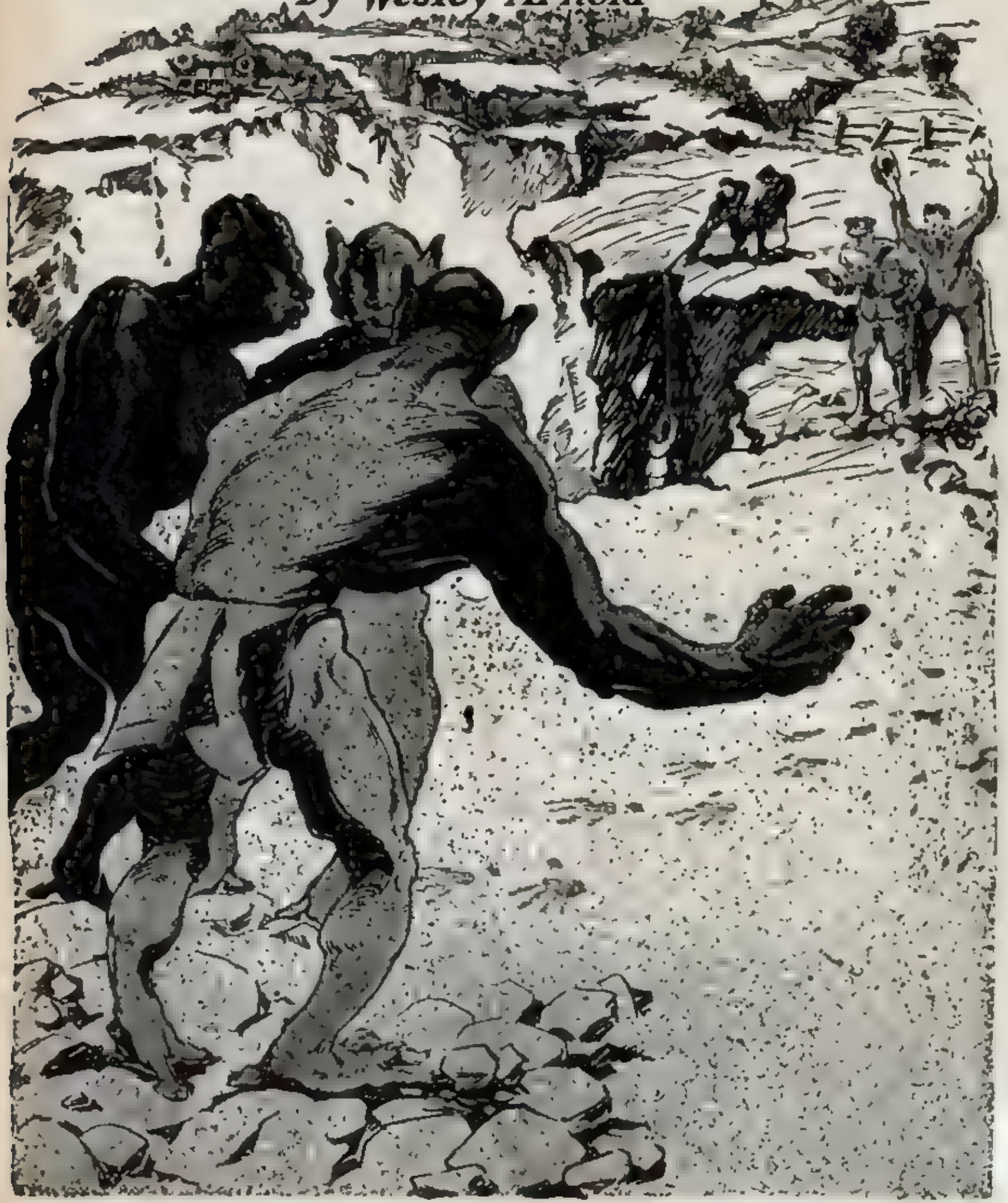
"If the occupants survived the fearful explosion, if they did not burn up in the heat caused by friction with the atmosphere, or freeze in the icy chill of empty space, there remained for them a dreadful death by slow suffocation, or else the worst end possible for a human being: despair out in the desolation of space!

"Doubtless the air within the hull did not last long. It slowly seeped outward; the chill of space pressed in and clutched with greedy fingers at those sacrificed to it. It encased the last of the Atlanteans in icy armor, preserving their bodies as mummies—the last silent, but eloquent, witnesses of the great tragedy of humanity, the drama of guilt and atonement.

(*Continued on page* 418)

# Within the Planet

*by Wesley Arnold*



(*Illustration by Leonard*)

**Immediately he pointed the revolver and fired. Both of us shouted at the top of our lungs. The three underworld creatures seemed taken aback by this. But they held their ground.**

I ARRIVED at the airport after a hasty preparation and found that the government relief plane, in readiness to leave, was being held for me. The cabin was crowded but I found a seat, stored my bag under it and sat down to catch my breath. Immediately the plane took off, rose gracefully and in a few moments was racing westward.

There was little point in speculating about what I would find at the end of the journey. Although I had "covered" the disastrous Florida hurricane for my paper I knew that the present catastrophe so overshadowed all earlier natural calamities that they would be almost useless even as standards of measurement. It was utterly impossible to conceive in advance the scenes of desolation and horror that must have been caused by an earthquake that had laid waste an area as large as a good-sized state and included portions of four states.

Accordingly, with the matter-of-factness with which the experienced reporter prepares to greet even the greatest of disasters, I settled myself for the journey, resolved to keep my mind clear of preconceived ideas and open to the impressions that would meet me at the scene of the disaster.

If I was startled to hear the words, "Hello Jim!" spoken at my elbow, my delight was equal to my surprise when I looked up and recognized the frail, little, be-spectacled man who was standing in the aisle beside me.

My acquaintance with Professor Ernest Burlingham had begun three years earlier when I sought an interview with him on his announcement of the completion of his *Electrical Theory of Matter*. I had shown so much interest in his work, and an understanding so much better than he expected from a mere journalist, that he had invited me to return to his home. The acquaintance ripened and for the next year I saw a good deal of the famous scientist, who instructed me with the interest of a godfather. I had not met him for more than a year, now, and I was more than happy to see his thin face bent over mine and to feel his deceptive brown eyes searching my mind.

Burlingham was of a most deceptive appearance in truth. Although he appeared weak, absent-minded and on the whole insignificant, I had reason to know that there were few men, if any, who could wield a more devastating power than he, or who could be more thoroughly aware of their surroundings.

"Scavenging again?" he asked, with a smirk. He had always smiled at the tendency of newspapers to play up sensational crimes and disasters while, in his judgment, they neglected the advances of science. I had long since decided that this was the one question upon which he refused to be open-minded, and had ceased to argue with him on it.

"The newspaper man and scientist seem bound for the same destination this time," I observed slyly.

"That is often the case," he countered, "but while the scientist goes to lend the aid of his knowledge to sufferers, the newspaper sends its representative to capitalize their plight."

To change the subject I asked him about his recent work. We found seats together, and I was quickly engrossed in his attempt to explain life and mind in terms of natural science.

"While I have not gone far enough to make any results public as yet," he declared, "I feel that I am on the right track at last and that eventually, possibly at no distant date, I may be able to demonstrate that these phenomena can be accounted for as phases of electrical activity. It will be long, however, before we can define either as completely as we have defined matter in the same terms. As to artificially creating life and mind in its more complex forms, I feel that it is undeniably possible and will come some time in the future."

I found it difficult to keep my thoughts on the soul-stirring matters which Ernest Burlingham, with his kindly interest, was expounding to me. They kept reverting, instead, to the horror toward which our plane of mercy was speeding at more than 250 miles an hour. I heard my companion's voice going on and on. I was becoming drowsy and lost the thread of his talk. Then one statement of his penetrated through the fog in my brain. I concentrated my mind to recover the sentence.

". . . . . this thing has interrupted my work, but when the opportunity is unique one must drop

WESLEY ARNOLD

**IN man's exploration of his home, the Earth, he has almost entirely neglected the study of what lies beneath the surface of the Planet. Our borings into the earth in mines, etc., have penetrated little more than one mile and have therefore given us little clue as to what the interior of the earth consists of.**

**That it may contain living beings, few serious scientists will doubt. And it is quite obvious that such beings will have physical and mental characteristics that have been determined by their physical environment. If, for example, there is no light in their home, they will have developed a substitute for sight, possibly by an exaggeration of the senses of hearing, touch and smell. If the air pressure is very high, the chances are that they will have small chests and if it is very low, they probably will have developed large chests, so that they can breathe more deeply and more fully in order to draw into their lungs a sufficient amount of oxygen to keep them alive.**

**The mystery about the interior of the earth proves to be one of the most fascinating in present-day science. We are sure our readers will agree that Mr. Arnold has given us a picture that is not only convincing but provocative of thought and stirring to the imagination.**

everything to seize it."

What, after all, I wondered suddenly, was the explanation of Ernest Burlingham's presence in the relief plane. Its passengers included, outside of us, only some physicians, a couple of Red Cross officials, and Major-General Hugh Lombardi, who was to assume charge of troops now speeding from all directions toward the desolated district. In addition there was a quantity of medical supplies most urgently needed by the earthquake sufferers. Burlingham was not a medical man, and I was at a loss to understand just what his function was to be.

Feeling that our relations were friendly enough to permit it, I put the question to him, wording it so as not to offend his vanity. He hesitated before replying.

"I am going to investigate certain very vague reports that have reached me. It is possible that my work will be the most important—from a scientific and not from a human viewpoint—that is to be done in connection with this catastrophe. We are going to see, of course, the greatest upheaval of the earth's surface that has occurred in historic times—possibly the greatest since the earth's crust finally solidified. Who knows what it may have revealed?"

With this portentous, if vague, utterance, Burlingham seemed to withdraw into a shell of silence. I pondered in vain for an inkling of what he might have referred to. Although I was unable to explain his words, I knew, because I knew him, that they had not been uttered lightly. I knew also that nothing that was not of the utmost importance could have drawn him from the research work in which he was engrossed. Giving up the attempt to solve the puzzle, but mentally resolving to keep an eye on him for possible news, I looked from the window of the cabin for a time at the orderly terrain over which we were flying. A few minutes later I walked up to where General Lombardi was sitting to learn if he formed any plans of action.

The next two hours I spent making the acquaintance of the medical men aboard, and forming contacts with the Red Cross officials for use as news sources. Then I became aware that we were approaching the devastated area. I took my place by a window to get as early a view as possible of the ravages of the earthquake.

### A Trip to the Interior

IT was 8:32 P. M. precisely on October 11, 1936, when seismographs in all parts of the world told of an unprecedented shock in the interior of the United States. Practically all seismological stations on the North American continent were put out of commission by the force of the initial quake. When they were restored to working order after many hours they showed violent tremors continuing, but diminishing in intensity.

First news reports filtering out indicated that the dead were numbered in tens of thousands and the homeless in millions. Fortunately, Indian Summer weather prevailed, but the threat of winter hung over the homeless survivors of the catastrophe. Relief measures, however, were undertaken promptly and with the efficiency characteristic of Americans in such emergencies. The airplane in which I was riding was one of the first to speed to the scene with men and supplies for relief work. At eleven A. M. on the day following the disaster we sighted the outlying ruins.

Flying low we saw first a large barn lying in ruins, then a concrete bridge torn loose from its moorings and fallen into the stream below. Within ten minutes we were passing low over scenes of complete destruction. Not a building remained standing; paved roads were cracked and resembled plowed fields; every bridge we sighted was down; ruin and desolation were everywhere. Along the side of what had been an important highway stretched lines of refugees; men, women and children straggling, with loads of household goods and valuables, toward the edge of the devastated area. In the line were automobiles and horse-drawn wagons loaded with goods, moving slowly over the soft ground, for the roadway itself was impassable. We saw them passing laboriously through ravines which formerly had been bridged, and making long detours to reach fords across streams. Above us was a stream of private and commercial planes transporting people and their belongings to safety. I became aware of Burlingham at my side.

"You are looking now at the worst part of the destruction," he said. "The worst effect of earthquakes is felt at a distance from the center of the disturbance, in a circular band, that is. Earthquakes originate, as you may know, at some point under the earth's surface, from one to 30 or more miles down. That point is called the centrum and the point on the earth's surface directly above is called the epicentrum. The force of the disturbance moves outward from the centrum in spherical waves, exerting its force downward as well as upward. As we go away from the epicentrum the waves of disturbance become more lateral in direction, and we observe a true undulation or wave in the earth's crust. Trees may be seen to incline until their branches touch the earth and then straighten up as the wave passes on."

"What happens at the centrum to cause the quake?" I asked.

"Probably the collapse of the roof of a huge cavern, or the buckling of a stratum under a severe strain."

The scenes below us were constantly changing as we progressed, yet they remained curiously the same in that they told a story of complete destruction and horror. At length the pilot banked around and the plane headed eastward again. Twenty minutes later we came down to a smooth landing at the field outside Scottsboro, where temporary relief headquarters had been established on the edge of the zone.

The entire town, like many others, had been turned into a huge hospital center, barracks having been erected everywhere for the relief workers and officials. Leaving my belongings in a room assigned to me, I immediately set to work gathering the news. I worked uninterruptedly and was able to file eight columns for the final edition of the *Globe*, giving to the best of my ability a description of the scenes of destruction I had observed and, in the vivid stories of survivors, an account of the occurrence of the earthquake. I told of the feverish scenes of terror when, to the tune of a clashing and rumbling from the earth's interior, homes and office buildings crumpled about the heads of their occupants.

Some of the stories told me by survivors of the shock were so fanciful that I disregarded them completely. Such was that of an old farmer whom I interviewed in a temporary hospital where he was lying with many broken bones. His home was located near the center of the quake area, on a farm outside the town of Monroe. He told me how he had been walking along the main road leading from the town to his farm when the shock came. Something seemed to strike him a sharp blow and he knew nothing more

for the time being. When he came to, his ears were assailed by a hideous clashing and grinding noise. As he recovered his senses further he discovered that he was lying on the hillside a hundred feet from the road along which he had been walking. He was in great pain, but managed to raise himself on one arm and look about. He came to the conclusion then that he had been thrown through the air by the shock and that his life had been spared only because he had fortunately been plunged into the branches of a tree which broke his fall to the ground.

The farmer, a simple man, told me that he either had died or had been on the verge of death. When I asked him to explain, he related the following:

"I was unconscious most of the night, except for times when I came to. I was in great pain all over and it was a mercy when I could be unconscious. Finally I came to again and it was daylight. I was sort o' numb and didn't hurt so much. I turned my head and looked down the hill and on the other side of the road, in the field, I saw three devils. They were coming in my direction. I must have fainted, or died, or something. I didn't know any more till I felt hands touching me and saw a man bending over me. There was another man with him, and they carried me to an automobile and put me in it. That ride was terrible, when I was able to feel anything. I would have died on the way but after seeing those devils, I didn't want to die."

"What did the devils look like?" I asked.

"Not like the pictures," the farmer replied. "They were more like big gorillas. They had long arms that came down to their feet. They didn't have any hair and they didn't have any eyes, just hollow spots in their big heads where their eyes would have been."

Needless to say I did not include the latter part of the old farmer's story in my telegraphed account of the disaster.

## CHAPTER II

### A Strange Request

I WAS not long in learning, however, that the old farmer's story had gained considerable circulation. A similar experience had been related by a youth who escaped injury and who aided in carrying out of the area the maimed bodies of less fortunate neighbors.

The next day the story had become such a topic of interest that I mentioned it in telegraphing my dispatch, without, however, giving it any credence. I attributed the story to the nervous reaction of those who had come through the disaster, and quoted it to show the state of nerves of the community in which I found myself.

That afternoon I went to General Lombardi's headquarters. In the anteroom I was surprised to see Ernest Burlingham, whom I had completely forgotten in the stress of work since our arrival together. He greeted me effusively, and called me aside.

"Jim, my boy," he said. "You must do something for me."

"I'll be glad to, if I can," I responded truthfully.

"I must get into the interior of the quake area as soon as possible. I know how busy General Lombardi is and how engrossed in his rescue work, but it is absolutely essential that I get an airplane and pilot to take me to the vicinity of Monroe this afternoon. You had better come along, I think, because I can promise you something of interest. The question is, can you get the general to furnish a plane and pilot?"

I looked at Burlingham curiously. What could he have up his sleeve? However, he volunteered no explanation.

"Well," I said, "I am going in to see General Lombardi now by appointment. I will put your request to him and try to get it granted. It is impossible for me to go with you, however. The big news is coming out of this town now."

"Suppose I could promise you even bigger news?" said my friend. "I do not say I can, but I say suppose I could. Suppose I told you that if you come with me you will get the biggest story that any newspaper ever published?"

"In that case I would go with you, of course," I replied. "Can you promise me anything like that?"

"No. I promise nothing. But I firmly believe that if you accompany me to Monroe you will witness the strangest thing seen in historic times."

"I'll see what I can do," I told him, and passed through the door into the general's private office. When I emerged after ten minutes he looked at me eagerly. I handed him a paper.

"This is an order putting a small plane and a pilot at your service for 24 hours," I told him.

"That is splendid, Jim. Thank you a thousand times over," he exclaimed gratefully. "You will come with me?"

I turned the problem over in my mind. My duty to my paper was to cover the news and not embark on a wild-goose chase. Nevertheless I had a great deal of respect for Burlingham's judgment. It might be, as he said, that big news was hidden in the interior. At any rate I could accompany him and probably be able to return at any time within the 24 hours, after having inspected the damage of the quake over its centrum. In the meantime my paper could depend on the news associations to "cover" them at relief headquarters. On the spur of the moment I made up my mind to accept Burlingham's offer.

"I will be ready in half an hour," I said, "after getting off a dispatch to the *Globe* and letting them know my plans. Where shall I meet you?"

"You have less to do than I have," my friend replied. "Take this order with you and have the plane in readiness to hop off in an hour from now. I will meet you at the flying field office."

When he finally arrived, a few minutes after our scheduled time, everything was in readiness and I was chatting with Lieutenant Richard Williams, who was to pilot us. He was a blue-eyed, blond boy of 23 years, with a frank and friendly smile. Almost spontaneously we at once began to call one another "Dick" and "Jim." Burlingham, to my surprise, was carrying a large-bore repeating rifle. A burly laborer tagged at his heels with a huge coil of small but stout rope. These he placed in the floor of the plane at the scientist's direction.

"They may be necessary to my purpose," was the only reply he made to my inquiry about his strange equipment.

After receiving the word that we were ready to take off, Lieutenant Williams directed us to take our places, and the airplane rose from the ground. Fifteen minutes later we were over the ruined town of Monroe. Burlingham, who was watching the ground below closely, then directed the pilot to fly in a southerly direction, and then to veer to the west and return. He

was perfectly silent until on the return trip I heard an exclamation of satisfaction from him. He pointed out a fissure in the earth's surface, a great hole a hundred feet wide and five hundred feet long, which had the appearance of having been opened up by the quake.

He indicated to Lieutenant Williams that the fissure was the objective of our trip and that he wished to land near it. The pilot accordingly circled lower, and soon brought the plane to the ground in a soft field several hundred yards away. Burlingham was out of the cabin almost before the plane came to a stop. He started at a rapid pace toward the edge of the hole, while I jumped out and followed, both because my curiosity had been roused to a high pitch, and because I wished to see that no harm befell my strange friend.

### Burlingham Explains

I REACHED the brink simultaneously with the professor and we stood side by side looking down into the great crevice. It was obvious from this closer view that the fissure had been opened up by the earthquake. The jagged walls gave evidence of having been torn forcibly apart. Huge broken rocks stuck out of the sides. The bottom of the abyss, if it had one, was lost in the blackness which seemed to fill it like an impenetrable liquid. I estimated, however, that I could follow the walls of the fearful hole down at least a thousand feet before the blackness enfolded them.

I had almost forgotten those about me until I felt Burlingham's hand on my arm. Williams had come up also, and was peering into the hole with awe. At the professor's suggestion we lay down prone so that we could look our fill without the danger of being overcome by vertigo.

The walls of the hole, as I have stated, were not smooth and perpendicular, but jagged and jutting, much as the edges of a cake that has been pulled in two. Although I was vastly impressed with this evidence of the earthquake's work, and very curious to know what a trip to the bottom of the fissure might reveal, I found it impossible to fix my gaze into the abyss for a long time. Accordingly, I straightened up to a sitting posture a safe distance from the edge, so that I might recover my sense of equilibrium before attempting to stand. I noticed that Burlingham and Dick had already left my side and were walking along the brink of the hole some distance away. As I watched, the professor suddenly dropped to his knees, and I heard an exclamation of triumph from him. Our pilot also seemed quite interested in something on the ground, so I walked to where they were kneeling. They were examining an impression in the soft clayey earth.

Now I will not say that I was surprised at what I saw, for that is not the word. I was really stunned —but I was not surprised, because I had almost expected something strange. Since the time that Burlingham, in the office of General Lombardi, first suggested that we visit the earthquake's epicentrum, I had felt, in some curious way, that we were going in connection with the weird stories that had gained so much credence among the survivors. In other words, I felt that our trip had something to do with the "devils" the old farmer had claimed to have seen. Therefore I was not surprised at what I saw, although the sight stunned me and made my reason totter. The scientist and Dick were looking at a footprint which even I realized at once was not that of man, ape, or any other animal I had ever known. I can best describe it by saying it looked to me like the print of a man's hand, the fingers slightly spread, but with a flat palm and a heel at least eight inches long. Or, to take it the other way, it might have been made by a flat-footed man with fingers instead of toes.

A succession of slight tremors, punctuating the steady vibration of the earth, had continued for two days since the main shock. At this moment a distinct quiver, running through the ground, forcibly impressed upon my mind the circumstances attending our peculiar discovery.

As I came up, Burlingham drew a pocket ruler and began measuring the impression, and its various parts. Pausing to make a note of one of the dimensions, he asked me rather peremptorily to gather some large stones. I complied and by the time I returned with them he was through with his measuring. He placed the stones around and over the print to protect it, and then arose. There was a light in his eyes that I had never seen before, as he turned to us.

"That is the foot-print of a creature that science has no records of," he exclaimed. "If possible, we must find an impression of its hands also. Look along the edge of this opening in the earth. The creature must have left a print in climbing over the top."

"There's another print over here," put in our erstwhile pilot. "I just noticed it."

THE professor almost darted to the spot at the edge of the abyss that Dick indicated.

"Ah!" he exclaimed with joy. "That is a hand, and here beside it is the foot." He bent over and examined the impressions for a moment and then again stood up.

"What sort of monster made them?" I asked.

"Well may you ask, my boy," he exclaimed. "The prints we have seen were made, I am convinced, by something the like of which had never been seen on the earth's surface until two days ago. And yet, although I have not seen the animal, I can give you a complete description of it, and something of its history. Let us move away from the brink of the hole and I will tell you what I have deduced. Then we must make our plans at once. I shall ask your advice."

"I can best begin," he continued, when we had moved away and seated ourselves on some rocks, "with the assertion that no animal known to us could have made the footprint we just saw. And yet the animal that did make the impression must have a resemblance to both man and the higher apes, and therefore must be an integral part of the scheme of life as it has evolved on the earth through millions of years. In other words, this creature of whose existence we have proof had a common origin with mankind. It must have branched off our lineal tree even before the line of the higher apes did, and yet I have reason to believe that its development has been more similar to that of mankind than that of the apes. In other words, this creature must more nearly resemble mankind than the apes.

"As you undoubtedly know, mankind's progress would have been impossible without the peculiar construction of our hands by which the thumb is able to oppose the four fingers, to pick up and hold things, to mold and construct things by the use of them. The apes have never fully learned this trick because of the construction of their hands. But this creature whose tracks we have seen has not only developed hands like ours, but its feet have the same power of grasping things that our hands have. For practical purposes,

therefore, the creature may be said to have four hands. Think of what that means. It could construct a delicate watch with its feet, or with its hands. In fact both its fingers and toes are longer and more delicately molded than our fingers, so that it undoubtedly is a better workman."

I looked up and caught a wink from Lieutenant Williams, but for my part I did not share his obvious disbelief. After all, *something* had made those curious impressions in the ground. Moreover it seemed probable now that the stories of monsters having been seen in the vicinity did not spring from mere hallucinations and that the creatures the scientist described might actually exist.

"But is it possible," I ejaculated, "that these creatures have lived and developed somewhere underground?"

"It is not only possible, but obviously true," Burlingham declared. "From where else could they have come? I promised to give you something of the creature's history, and I will do so, although in a general way, of course.

"To begin with, he probably lived on the earth's surface. It would be reckless for me to say how many millions of years ago, but it was long before the development of anything like the present race of mankind. We have reason to know that cataclysmic upheavals of the earth were fairly common in those days, but the one which imprisoned these creatures in the bowels of the earth must have been greater than anything we have ever imagined. In some giant upheaval a huge pprtion of land must have sunk a mile, but probably not much more than thirty miles. The earth closed in over it, and a huge cavern was formed in the depths of the earth. We cannot even imagine the terror that must have gripped the animals engulfed thus in a subterranean prison. I think perhaps an entire tribe of these creatures, then in an early state of development, were swallowed up in the earth. They found themselves in utter darkness and their ears must have been assailed by the most terrible noises.

"Within a few days the noises ceased and they found that they were still alive, although entombed in utter night. They must have had a supply of food, or they would have starved before they learned their way about in their new world. You must remember, however, that they were very primitive animals. They found water, probably in the form of a lake fed by springs and emptied by absorption in the earth. The disturbance must have carried down, along with these creatures, other forms of animal life and also the vegetation that was then possibly in fruit. They began to discover that their world had not changed otherwise, but had simply sunk to a depth in the earth. Life is persistent, and somehow they managed to come through the first few months, and by that time they had made enough adjustments to their new environment to find life easier.

"One thing we must realize is that the air pressure in the vast cavern must have been much above what they were accustomed to. The pressure at the earth's surface is about 15 pounds to the square inch and if we were to go down in an open shaft it would double about every two and three-quarters miles, so that five and a half miles down an open shaft, the pressure would be about 60 pounds per square inch. However, in this cavern unconnected with the earth's surface the pressure of the air would be determined by its density. It would depend upon the volume of the air entrapped and the size of the cavern. I think it is safe to assume that they suffered discomfort for a while from increased air pressure, but since this is a force exerted in every direction, they soon adjusted themselves to it. Vegetation must have undergone some alteration enabling it to exist in a changed form. And so, in toto, we have imagined an entirely new world in which the creatures made prisoners by the upheaval were able to exist and to develop on lines altered to suit their environment. This development, bearing a kinship to the evolution that was taking place above them, went on through the centuries. One important point is that these subterranean creatures, having no use for eyes or organs of sight, gradually lost these organs through atrophy. The skin probably overgrew their eyes in time.

## CHAPTER III
### Some Evidence

"THEN, after centuries, the earthquake which has brought us all here, opened up an exit from their prison, which they had long regarded as their natural home, and gave them access to the earth's surface. What is to result from this, I cannot tell you. I think we may assume that these subterranean apemen, who may be as far along the road of evolution as we are, will desire to remove themselves to our more spacious world. We three are on the spot to witness what follows and we have evidence that one, at least, and probably more, of the creatures has been close to the spot where we are seated at this moment."

I had been so absorbed in Burlingham's exposition that I had forgotten my surroundings, and as he stopped, with a wave of his hand toward the spot where he had examined the strange footprints, it seemed to me that I had been transported from a dark and loathsome place back to the sunshine. Dick, I think, felt a similar impression, for I saw him looking around him as if to take to himself the pleasure and certainty of the bright sunlight. The scene we looked at was cheerful only by comparison, however, for ruin lay on every hand.

"Well, I don't wish to seem disrespectful," said Dick, with an engaging grin, "but I couldn't believe a thing like that and still think I was sane. It doesn't seem reasonable to me to believe anything of that kind could live miles underground."

Burlingham jumped to his feet nervously.

"Maybe this will convince you," he whispered excitedly. "Here comes one of the creatures toward us! Keep quiet!"

Dick and I sprang up and looked in the direction he indicated. Swinging toward us across the rough ground, with head bent low, was altogether the strangest animal I had ever seen. Although it was about the size of a gorilla, with huge chest and shoulders, and arms reaching almost to the ground, it still resembled a human being more than it did an ape. Its head was very much the shape of the human head except for the enormous size of its ears; but even at a considerable distance it could be seen that the creature had no eyes, but only slight indentations below the brow completely covered over by skin. It was entirely hairless, with a smooth, slate-colored skin, and it was naked except for a breech cloth. This strange creature was carrying swung across its shoulder the body of a dead or unconscious human.

I say that this creature was swinging along toward us, but I must stress the point that the very moment

after I caught sight of it, it stopped short in its tracks. After standing indecisively for barely a moment, it dropped to the ground behind a hillock. Simultaneously, Dick and I looked about us for a hiding place. Burlingham, however, grasped my arm to restrain me. Dick also held his ground though uncertainly and we three looked at the spot where the creature had hidden.

"There's no need for us to hide, since it has no eyes," Burlingham said, as much to himself as to us. "But how, in the name of seven times seven devils, did it know enough to hide from us? Never mind, we'll think of that later. Come over with me to where it is and be careful not to make any noise. The wind is toward us, so it is not likely to smell us."

Stepping carefully we crept toward the rising ground behind which the creature had hidden. I admit that I went with trepidation, for the creature's tremendous physical power had been apparent in the short glimpse afforded us. Nevertheless there were three of us, and both Dick and I were in good physical condition. It was unlikely that the creature could overcome all of us in an encounter. Moreover the risk must be taken.

While I felt sure the body it was carrying was that of a victim of the earthquake and that it was already dead, we all felt instinctively that we must prevent the creature from vanishing into the depths with it. We crept along until we had reached the crest of the ridge and could look down the far slope. To our utter astonishment it was completely bare of any form of life. I jumped up, feeling that I was going or had already gone, insane. At that moment I saw the creature rise up at the far edge of the small ridge and run toward a point between us and the edge of the crevice.

"Head it off," shouted Dick breaking into a run. I followed at his heels while Burlingham trailed along at the top of his speed—all of us shouting in the hope of frightening the creature. Apparently we succeeded to some extent at least, for it dropped the body it was carrying. It was running along parallel with the brink of the crevice. Suddenly with a sharp little sound it turned when almost within reach of us and headed directly for the abyss. A second later we saw it vanish over the brink at the exact spot where we had seen the prints left by its hands in climbing out. We followed to the edge and saw the creature making its way easily down the almost perpendicular wall. As we continued to watch, it finally vanished into the black depths. Dick was the first to speak.

"I want to take back what I said before, sir," he said to Burlingham, "I'm darned if I know what to think now, but I guess the first thing for us to do is to see about the fellow over there."

He pointed to the form which the creature had dropped to the ground, and we all moved over to it. It was the body of a man dead two days. Dick and I dug out a shallow, temporary grave for it, and then joined Burlingham, who had taken a seat on the ground nearby.

### A Grave Peril

"NOW that we've seen this uncanny animal, what can we do about it?" I asked the scientist. "He's not a fellow that I'd like to tackle, even with you and Dick to help. Do you think there's any chance of his coming back with reinforcements and doing some damage here?"

"Anything may happen," Burlingham replied solemnly. "I am stunned by what I have seen, although I realize that you and Lieutenant Williams do not fully understand the situation. I think it very likely that these creatures will appear on the surface in force within a short time. The first thing we must do is to summon aid, and I will request our pilot to return immediately to Scottsboro and ask General Lombardi to send reinforcements before night."

"Don't you think we could handle them?" asked Dick. "You know there's a machine gun on the plane yonder. If necessary we could take to the air and strafe them from above."

"I would not care to risk it," my friend replied. "Not for myself, only, but I would not risk failure in the face of a danger that may threaten the whole countryside, and, for that matter, the whole nation. I can tell you now that our subterranean visitors will prove the most formidable opponents you have ever imagined. Every minute counts and I must repeat my request. Lieutenant, that you take off at once."

"You're the chief," replied Dick, "but it won't be necessary for me to fly back to Scottsboro. I can get headquarters on the radio from the plane. What shall I say?"

"Tell General Lombardi that a grave peril faces the country and ask him to send all his available men. Suggest that he himself make a flight here so that he may realize the situation."

As Lieutenant Williams moved off, the scientist called him back and requested him, on his return, to bring the coil of rope and the rifle which were in the plane.

"Don't be too anxious to encounter these creatures, Jim," he said, turning to me. "You can judge the thing's physical strength—it is easily double that of a man. Now it is my firm opinion that the monster represents a race of higher intelligence and reasoning power than man himself."

"It is impossible!" I ejaculated. "The creature was so brutal, so crude and misshapen that I can not possibly associate the idea of intelligence with it."

My friend smiled wryly.

"It is sometimes possible to judge a man's intellectual power by his appearance, although not always. In this case, however, the criterion is useless, for you are attempting to judge this creature by the standards of a human being, which it is not. My conclusions are based on firmer ground.

"In the first place, the creature's head and brain cavity are fully the size of a man's. Since it is without the power of sight it follows that the brain cells which, in man's mind, are devoted to the purposes of sight, are made up for in its brain by other cells. That is, if the creature's brain is the same size as man's, its mental powers, disregarding that of the perception of light, must be greater. Whether these are merely an extension of the mental powers we recognize, or whether the creature has powers that we know nothing of, is speculative. I incline to the view that both of the possibilities I suggest are true. In the brief encounter we had with the individual of this subterranean race it outthought us at every step, and exhibited the most amazing mental processes. Let us go back over what happened.

"When we first caught sight of it, the creature, I believe, was following its own spoor back to the crevice from which it had emerged. Its senses of smell and hearing, we will assume, are highly developed to compensate for the lack of sight. Now at the very moment we saw the creature, or barely a second afterward, it sensed us by some means, despite the fact that we were

very quiet and that the wind was from it toward us. Possibly our mental agitation betrayed us by thought waves which let it know that sentient beings were in the neighborhood. The creature was doubtless as much surprised as we were at the sudden encounter, but it acted much more intelligently in the circumstances. We knew, or felt sure, that our visitor from the underworld had no eyes, yet we instinctively and quite naturally tried to hide from it. That was not intelligent, but an emotional reaction based on fear.

"On the other hand this creature, whose ancestors for a million years have lived in absolute darkness, and who presumably had no conception of the sense of sight, tried to hide from us. How could it have realized that we were able to *see*, or that there was such a thing as seeing? I believe the answer is that it had already evolved a conception of sight by pure reason, something that no man would be able to do. We have never been able to imagine anything that was not based in some way on our experience and to do so would require mental powers of an entirely different *nature* than we possess.

"This creature, as nearly as I can explain it, must have felt some reaction to the light of the upper world. Then he had had an opportunity, as we know, to examine the body of a man and to discover that it was very similar to his own. He must have speculated about the man's eyes. I assume that, putting two and two together, the creature decided that the body's eyes were in some way connected with the light which it had sensed. But how did it make the unbelievable jump from this point to an abstract conception of the power of sight? It is so uncanny, that it stuns me."

I was unable to reply to my friend's argument, which seemed conclusive. He continued:

"Then, of course, the creature outwitted us by dodging around the hill, racing back in the right direction until it picked up its spoor or smell trace, and made good its escape into the abyss."

MY companion ceased speaking and stood up. I saw that Dick was returning from the plane and, in accordance with Burlingham's request, was bringing the load of rope, staggering under the weight. He dropped the large coil near us, and leaned the rifle against it.

"The general is coming out, himself, to see what it's all about," he announced cheerfully. "I think he suspects us all of being crazy but the last word was that he would be out later this afternoon, probably within an hour."

I looked to the west. Probably three hours of daylight remained. Burlingham had the same thought.

"That is a relief," he said, "for I do not doubt that we shall need the advice of General Lombardi himself about the situation. Meantime we must do what we can, and I propose to descend into the hole as far as the length of rope, about a thousand feet, and see what information I can gather."

Lieutenant Williams and I spoke up at once in protest. If it were necessary for anyone to go into the hole, it certainly should be one of us, and not he.

"Unfortunately, neither of you would do," the scientist replied rather brusquely. "I do not know what may be discovered by a trip a thousand feet down in the hole, possibly nothing, but I prefer to have a look myself."

Silencing our protests, he began tying an end of the rope about his chest. I realized that nothing we could say would have any influence with him. Unless we were prepared to restrain him by force the best thing was to lend him what aid we could in carrying out his hare-brained scheme and getting it over as quickly as possible. Accordingly, I busied myself with fastening the rope fast under his arms. The professor's instructions were simple. He wished to be lowered into the opening in the earth to the extent of the rope's length. Dick and I were merely to "stand by" until we got his signal to raise him. He would shout when he wished to be pulled up, or, if it proved impractical to communicate in that way he would give the signal by firing the rifle which he carried strapped over his shoulder.

Our preparations were completed quickly and Burlingham calmly lowered himself over the edge and began his descent, while Williams and I kept the rope taut and gradually let it out as he went deeper. The wall of the hole was slightly inclined away from where we were standing so that we were able to watch the scientist's progress for some time. Lower and lower he went, disappearing at times under the ledge of an overhanging rock and then coming in sight several yards further down. Frequently he dislodged fragments of stone with his feet or hands and we could hear them rattle down the side of the wall until the sound finally died away. His descent was steady; his form steadily becoming more indistinct in the darkness until finally we were unable to see him. There was only the white rope stretching down and disappearing into the forbidding and ominous blackness. At length we came to the end of the coil. We retained about ten feet of rope, which we snubbed around the stump of a tree. Then we made ourselves comfortable at the edge of the abyss to await the signal that Burlingham was ready to be hoisted to the surface again.

## CHAPTER IV

### Another Encounter

I CONFESS that I waited with forebodings of disaster. I blamed myself now for not having restrained Burlingham by force from taking what was an unnecessary risk. I might even have convinced him against making the attempt on the ground that his advice and leadership in this crisis were invaluable to humanity.

Dick felt as I did, and we had almost persuaded ourselves that it was our duty to pull the scientist up immediately without waiting for his signal, when our ears caught the sound of an airplane's motor. The plane, flying low, circled overhead and then came gently to rest near where our own plane was standing. Two men, one of whom was Major General Lombardi, alighted and walked toward us.

Williams explained the situation to the general in a few words when that official reached us. He peered with interest into the abyss, his eyes following the rope down until it disappeared in the depths.

"This is the greatest nonsense I ever heard of," he commented in the matter-of-fact manner that he rarely lost.

"You forget that three of us, Professor Burlingham, Lieutenant Williams and I, have actually seen one of these creatures," I reminded him. "Moreover, if you will look I will show you the impressions of the thing's hands and feet."

I indicated the spot, some thirty feet away, where the pile of rocks protected the creature's footprint. General Lombardi stalked over to it. The general's pilot had

joined us and, leaving him and Dick to guard the rope and listen for Professor Burlingham's signal, I followed General Lombardi and exposed the footprint. The general examined it with the same interest we had exhibited earlier, and I gave him a brief record of our encounter with the subterranean visitor, as well as a description of the animal and some of the professor's theories about it.

Suddenly we heard a low cry from Dick. I turned my head and then clutched the general's arm with a complete lack of courtesy for his rank. Both of us sprang to our feet. There, less than thirty yards away from us, stood three creatures similar to the one we had seen. My heart jumped to my mouth, not so much in fear for myself as for Professor Burlingham, whose position, I realized, was now exceedingly precarious. The trio from the underworld made no movement for the moment, but simply stood in a group and appeared to confer. General Lombardi touched my arm, and I turned and saw that he had his service revolver in his hand. I started to remonstrate, doubting that the revolver could inflict a mortal wound on the animals, but he halted me.

"Shout and try to frighten them away until we can pull up your companion," he said.

Immediately he pointed the revolver in the air and fired. Both of us shouted at the top of our lungs and Dick and the general's chauffeur-pilot joined in.

The three underworld creatures seemed somewhat taken aback by this. They held their ground, however, and we could hear a chattering as they bent their heads closer together. Then without the slightest hesitation, they started at a rapid pace directly toward the general and me. The general fired one shot at them, but missed, I think, while we fell back toward the rope. Dick and his companion had already begun to haul the professor up. It was as well that General Lombardi and I moved when we did, for the trio lumbered directly over the spot where we had been standing and disappeared rapidly, one at a time, over the edge. Dick and the soldier were pulling the professor to the surface as rapidly as possible without dragging him across the jagged rocks, and there was nothing I could do at the moment.

With a terrible feeling of helplessness, I dropped on my stomach to watch the progress of the creatures down the wall of the abyss. They were descending rapidly and smoothly in a perpendicular line about thirty feet from the rope which was bringing Burlingham to the surface, and they seemed to be paying no attention to it, presumably not knowing that it was there. I doubted, however, if it were possible for a human being to go so close to them without attracting their attention. Accordingly I was not surprised when I saw them stop their descent about 400 feet down. Dimly I could see the form of the professor as he struggled to keep clear of the wall as he was drawn up. He was still some two hundred feet below the trio, and I could not tell whether he had observed them or not. The three creatures clung to the wall motionless as the scientist was drawn nearer them on his upward course.

When he was still a hundred feet away, I shouted at the top of my lungs, hoping to both frighten the creatures and distract their attention, and to inform the professor of their presence. The next moment I saw one of the creatures move over toward the professor's line of ascent. I called to Dick to pull faster, but I saw at the same time that it was impossible to haul Burlingham out of danger quickly enough. It appeared that the creature would grab him, and try to hold him. In that case it would develop into a tug of war, with the professor's life at stake and very likely to be snuffed out in the struggle even if we won. I jumped to my feet and gave what aid I could to prevent the creatures from winning. At my urging we began to haul in the rope faster, regardless of the fact that the man at the end was being dragged across sharp stones.

The expected jerk on the line did not come, but in a moment we heard the sharp report of a rifle, followed by a human shout from below. The shout came again and this time we understood it.

"Stop!" we heard Burlingham's voice.

Jumping back to the brink of the hole I looked down and saw the professor dangling at the end of the rope. Only two of the underground creatures were in sight, and they were moving rapidly downward. The immediate danger was past.

More slowly and cautiously we pulled the professor to the surface and helped him onto the solid ground again. He was cut and bruised and, as we could see, completely exhausted. We placed him on his back while General Lombardi bent over him to question him and the rest of us crowded around.

### More Intelligent Than Humans!

"WHAT happened?" demanded the general when Professor Burlingham opened his eyes after a moment.

"There was little to be seen at the depth I was able to reach," began the professor breathlessly. "The opening extends much further, probably to a distance measured in miles. However, I observed unusual strata formations, and collected some samples of earth and rocks which were loose. Unfortunately, I lost them when I had to defend myself against attack."

"But that's not what I want to know about," the general exclaimed impatiently. "Bother the strata! What happened when you encountered those three animals?"

"They seem to have a regular path for traveling up and down the wall," the professor said, "and I was not very far away from it. Two of them waited while the other came over to investigate me. I can hardly say I am grateful to you for the way I was hauled up the wall. In addition to bruising me up it made it almost impossible for me to use the rifle which I had. However, I managed to get it ready and at length the creature was within reaching distance of me. I saw that it intended to grab me and while I hated to take its life, I dared not risk falling into its powerful grasp. Accordingly, I fired point blank at it from a distance of only a few feet. The bullet struck it in the head and killed it instantly. The others, I think, realized that their companion had been killed and probably did not understand the manner. At any rate, they immediately resumed their descent, without bothering about the body of their fellow, which had caught on a jutting rock a few feet below me. I tried to make you understand that I wished to possess myself of the body and bring it to the surface, but I was too weak, I suppose. Someone must go down for it so that we may have the specimen for examination. It will be invaluable."

"Invaluable or not," General Lombardi said in a determined manner, "no one shall go into that hole to-

night. Tomorrow it will be different, for we shall have a force of soldiers on hand."

Burlingham started to protest, but the general silenced him with upraised hand.

"You seem to know more about these animals than anyone else," he went on, addressing the professor, who had raised himself to a sitting posture. "How many of them do you suppose there are?"

"It is impossible to do more than guess, but the number certainly must be in the tens of thousands. The race could not have any very permanent and secure existence otherwise."

Lombardi whistled.

"Your reasoning seems sound at that," he admitted. "And all of them are liable to come pouring out of their hole, I suppose?"

"Possibly."

"I understand you consider them intelligent and formidable opponents—more so than so many gorillas, for example?"

A smile flickered across the professor's face.

"I consider them, with reason, to be more intelligent than human beings" he declared.

"So I was told. We'll pass that point, in which I am unable to agree with you. Have you any idea how they may be armed and what their disposition and intentions may be? Are we to slaughter them as wild and dangerous animals when they appear? Or can we deal with them on any terms? Surely no man was ever faced by such a problem." The last sentence was uttered in a tone of despair.

"That is indeed a serious problem, General Lombardi," Burlingham said solemnly. "I wish I could give you authoritative advice, but it is impossible. My own idea is that it would be exceedingly dangerous to permit any large number of the creatures to be at large. If we could negotiate with them, undoubtedly an arrangement of some sort could be made. But unfortunately there is no medium in which we can meet them. They can not even see us to learn from our attitudes that we are willing to be friendly. They are beings from a different world entirely, who have suddenly obtained access to our world. I think the result can only be a struggle for possession of our earth."

As the professor ceased I hesitatingly advanced an idea that had occurred to me while he was speaking.

"Suppose the entire opening in the earth could be covered with wires charged with electricity at high tension. That would forestall any wholesale slaughter, for they would quickly realize the danger of touching it. At the same time we might permit a few to come out, capture them, and use them as ambassadors to their fellows if we were able to establish a communication of ideas with them."

"I think the plan might work," admitted Burlingham.

"It could do no harm," the general decided. "At least the charged wires would serve as our first line of defense. I am going to return now to Scottsboro and I will order a detachment of the signal corps to start at once with the necessary equipment. Meantime I will send Colonel Durham by plane to take charge. I will instruct him to confer with you, Professor Burlingham, about any steps that are to be taken. I will also despatch troops, including a machine gun company, and they should arrive during the night. I will return tomorrow. In the meantime, of course, you can inform me of any developments by radio. You are my representative, Lieutenant Williams, until the arrival of Colonel Durham, who should be here within an hour. My only instructions for the present are that no one shall attempt to descend into this opening until tomorrow, when Colonel Durham will direct the recovery of the body which Professor Burlingham tells us can be reached."

Having concluded, the general spun around on his heel briskly with a signal to his pilot and the pair walked to where their plane rested. A few minutes later we saw them take off and head toward Scottsboro, leaving the Professor, Dick and me alone.

## CHAPTER V

### A Near Tragedy

THE night was a busy one, a steady stream of soldiers pouring in on foot from Scottsboro. Colonel Durham had arrived before dark. He was a white-haired, very formal officer of the old school, and he was inclined to think that all three of our party were crazy and that General Lombardi had been affected by his contact with us. Nevertheless, he consulted with Professor Burlingham and showed an intention of carrying out to the letter the instructions given him by the general. He was followed shortly by members of the Signal Corps of the army, who were brought by plane and landed at our improvised field. At the professor's suggestion, they were put to work at once, making a protective fence around the point at which the subterranean creatures had been noticed to emerge. When this temporary fence was connected with two 440-volt storage batteries brought for the purpose we felt reasonably secure against a night attack. Arrangements were made to wire over the entire chasm the following day. A dynamo would then be put in operation and the whole system of wires could be charged to any tension which proved necessary.

That plan, however, was destined never to be carried out.

I went to sleep about midnight, and was awakened at the break of dawn by Burlingham. He was quite sore and stiff as a result of his narrow escape of the day before. Our surroundings had changed considerably overnight and there was now evidence of a considerable military force encamped around us. We sought out Colonel Durham, who was already up, and the Professor suggested that the body of the creature he had slain the previous day be brought to the surface immediately. He urged haste on the ground that an examination of its body might furnish information that would prove valuable in case of an encounter with the creatures in force, and also because of the possibility that the body might be carried to the underground cavern by its fellows at any time.

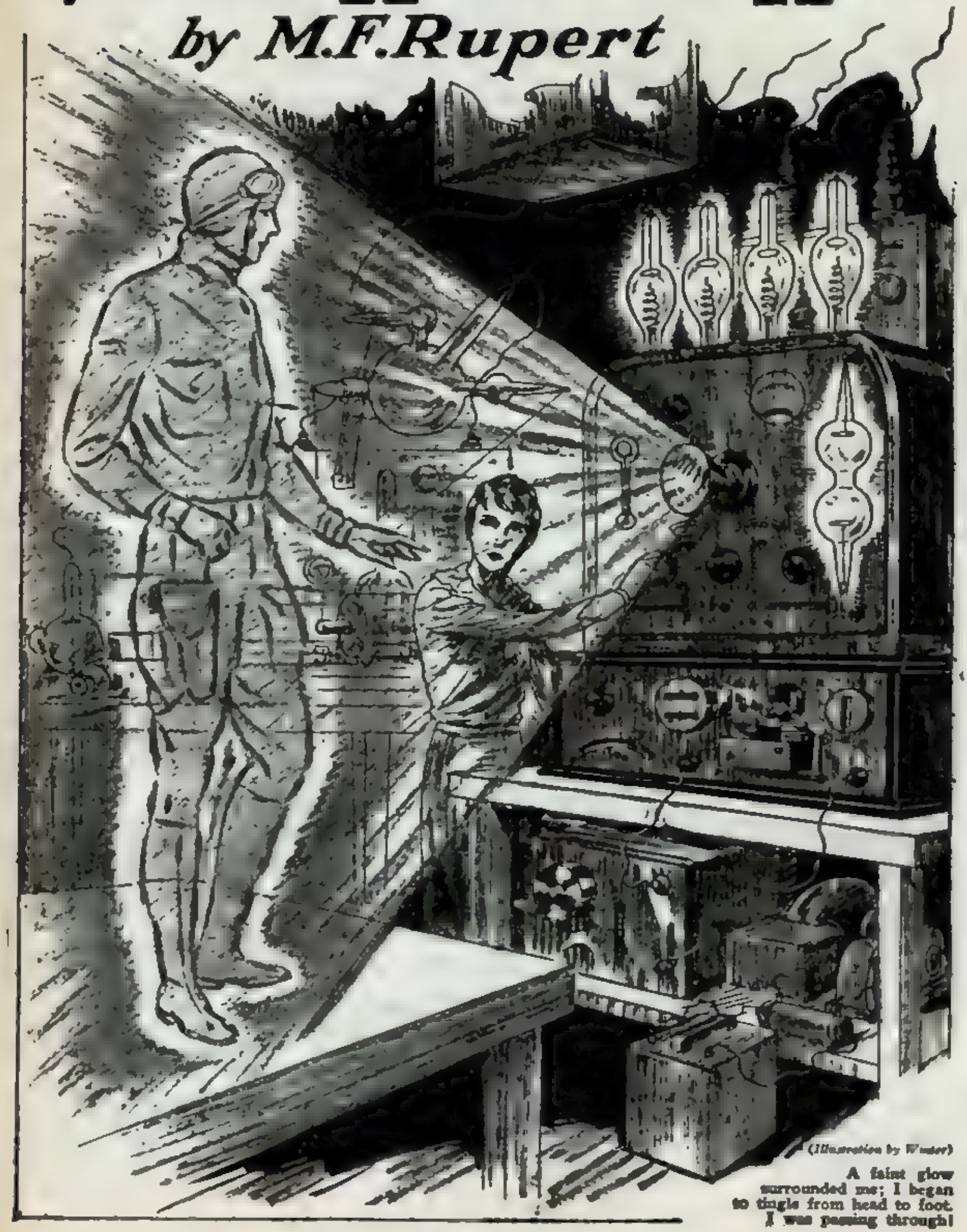
Colonel Durham assented, revealing his curiosity and a desire to see the body. The professor volunteered to make the descent and tie a rope around the creature's body but Colonel Durham rightly refused to permit this. Lieutenant Williams, who had followed us, came up at this moment and offered to go down himself. His superior consented and ordered Williams to make the descent at once.

The arrangements were quickly completed. A squad of soldiers was routed out to stand by the rope, and soon my friend was being lowered into the abyss at the same point where the professor had made his perilous descent. In addition to the rope tied around his chest, he carried the end of another rope which was fed out to him from the surface. At length his shout told

(*Continued on Page* 420)

# VIA the HEWITT RAY

*by M.F.Rupert*



(Illustration by Winter)

**A faint glow surrounded me; I began to tingle from head to foot. I was passing through!**

LETTER to Lucile Hewitt from her father, John J. Hewitt:

My Dear Daughter:

It is now eleven o'clock and I have one hour in which to give you my farewell message. Do not be alarmed, Lucile. I am not contemplating suicide, but as a climax to my life-long studies, I am now going to put to the final test my latest discoveries. Should I be successful in this experiment, you will not see me for a long time. When you find that I am missing, do not fear for me but rejoice that I have succeeded in the great undertaking.

You have now finished college and are engrossed in your own work so, although I shall miss you and do not doubt you will miss me, I feel free to make this experiment. Financially, you do not need me as you are now a self-supporting young woman and I have left provision wherein you will receive this house and all that I own after a year. The greatest hardship is severing, for the time being, our dear comradeship, but I know you will join with me in making this sacrifice.

Do you remember, dear, that about a year ago I told you of the experiments I was making in light waves? It is about those experiments and what they led up to that I wish to write. I will try not to be too technical.

In the laboratory you will find my equipment, electrical apparatus, and light-wave machine, and also the Hewitt Ray machine. In the top right-hand drawer of my desk is a manuscript explaining fully the new discoveries I have made. Please do not allow anything to be disturbed in the laboratory while I am gone. If I do not return within a year, you may publish the manuscript. I hope to be back before the year is up and attend to those things myself, but if I do not return then you, my beloved daughter, may present to the world my life's work.

M. F. RUPERT

**WE all recognize today that the world in which we exist is a very limited one. There are sounds that we cannot hear, colors that we cannot see, and by the limitations of our sense of touch, things we cannot feel. And, inasmuch as it is our sensual perceptions that give us our knowledge of the world, we must recognize that the world we are aware of is a very incomplete one. What, one might ask, might one find in planes of existence and sensation beyond our own?**

**Would we find a life such as our own existing coincidently with us, occupying the same space as we do?**

**Are there really a fourth and other dimensions of physical existence, and if so, would life in those other planes pursue the same course of development that our own life has taken?**

**Our present author has set herself a task of answering many of these problems, and she has done it in a manner that is so charming and picturesque and yet so scientifically plausible that we are sure our readers will be thrilled from the first word to the last.**

No doubt, you remember when I erected the light-wave machine. I told you then that it was similar to a radio receiving set, but instead of receiving radio waves, it was intended to receive light waves. Just as sound is transmitted from a source through the air by a series of waves, so light is transmitted through space by a series of ether waves. This machine receives the light waves just as radio receives the radio waves. Of course the real explanation is much more complicated and only a physicist could really understand and appreciate the beauty and immensity of the idea, but as I am writing simply for your benefit, the explanation I gave you a year ago is sufficient.

### Messages from Beyond

WHEN I built the machine I had no idea of the astounding revelations I was to receive. But one day, while twirling the dial, I noticed a peculiar arrangement of spectral lines showing on the screen.

Do you remember enough of your physics to understand what this means? The spectrum is the colored band which is produced by placing a prism in the path of a beam of light. When the spectrum is studied minutely with a spectroscope it is found not to be a continuous band of colors, but to be crossed by many dark lines called Fraunhofer lines, which are familiar to all who study light waves. It is also well known that the difference in color in the spectrum corresponds to the difference of wave-length. Keep this explanation in mind as you read what follows.

As soon as I noticed these peculiar lines showing through the spectrum I immediately ceased twirling the dials and studied the spectral lines, the characteristics of which were totally unfamiliar. I made a careful note of the arrangement of the lines; I also noted at what numbers the dials were set, and the time, which was five o'clock in the evening. For fifteen minutes this peculiar spectrum appeared on the screen and was then displaced by the usual Fraunhofer lines. Not touching the dials, I waited carefully for a reappearance of the dark lines, but not until five o'clock the next evening did they come. I compared them line for line with my drawing of the day before and they were exactly the same! For many nights at five o'clock these unusual lines appeared on the screen. Finally I dared to change the dials, to see whether, if I restored those numbers, the phenomenon would occur.

It did, but only at five o'clock. With the help of Professor Hendricks, who died last month, I built a light-wave sending set and after a vast amount of research and labor we found the combination of prisms and lenses that produced the correct spectrum. By manipulating the wavelengths we produced the dark line spectrum which had at first amazed me when beholding it on my own screen.

Do not be impatient with me for this long, dry discourse on light waves and spectra. I am apt to forget

that you are not as intensely interested in the details as I. I know that by now you are impatiently asking yourself, "But what's it all about?"

I will try to tell you. You know that Professor Hendricks and myself have always believed in the reality of the fourth and even the fifth and sixth dimensions. Remember how you laughed at us and told us that theoretically we were correct, but you declared actual and tangible proof was impossible? Now do not laugh, dear, when I say that Professor Hendricks and myself believed that these unusual lines were being sent by intelligent beings but *not of our dimension!* The elements of these lines are not known to us.

Do I make myself clear? If these strange spectral lines showed on my receiving screen, they were being sent by someone. The fact that they showed night after night at the same time and only when the dials were set in a certain manner proved that it was no accidental short-circuiting of the wavelength but that they were being sent deliberately. The precise and undeviating arrangement of lines argued that a message of some kind was being sent. What the message meant and who was sending it we did not know but we intended to find out if possible.

One evening immediately after receiving what we had by now come to call 'our message', we switched on our sending set and repeated the message line for line. After a few moments, there flashed back on our receiving screen the identical lines! For the first time the message had come through again! We were highly elated, you may be sure, and figured that whoever was sending that message had received our repetition of their code and was indicating that.

What to do now? We could, of course, repeat the message every night after we received it and in this way keep in touch with the beings who were communicating with us. But as we had no means of finding out what the lines meant, we would not get very far by that method.

### Determined to Go

THEN came the illness and death of Professor Hendricks and I was left to carry on alone. I almost despaired of making any progress when there flashed into my mind another possible way of communicating with these strangers.

Several years ago I was working on a series of experiments in short wavelengths, especially cathode and X-rays. As you may remember, cathode rays are streams of electrons shot off from a surface at very high velocity. Just as the X-ray was discovered by experimenting with the cathode rays, so one day, experimenting with the X-ray, I discovered an entirely new ray which I called the Hewitt Ray. No doubt you remember the excitement that the publication of its discovery caused.

Like the X-ray, the Hewitt Ray will penetrate any substance opaque to ordinary light, but the great difference is that it does not, like the X-ray, stop at forming a shadow picture, for by diminishing the gas pressure within the tube and by increasing the voltage across the electrodes, the penetrating power of the resulting rays is increased to such an extent that the object on which the ray is focused is disintegrated. And what is stranger still, not the picture of the object appears at the focal point, but the actual object itself is reassembled and reappears, none the worse for its experience.

You were just a young girl then, but you must remember all the talk and conjecture aroused by the discovery of this new ray. It was thought for a time that it would revolutionize transportation. In fact, it was proved practical for swift traveling. Huge Hewitt Ray machines were built with a focus of many miles and a few intrepid souls were found to lend themselves to the experiment; but although they arrived safely at their destination and were loud in their praise of this method of traveling, the general public would have none of it. Humanity has not yet evolved to the point where it is willing to travel 186,000 miles per second. So my Hewitt Ray, conceded to be a marvelous thing, was put on the shelf like many other revolutionary inventions. No doubt, a few thousand years from now, it will be used universally.

So, as I thought of this ray, I wondered if, by experimenting a little further, I could possibly change the ray so that it would not merely reassemble the object which it disintegrated but allow the object to travel on. Into what, you may ask? Space? The fourth dimension, or wherever it is that a light wave goes when it has passed beyond our eye?

I will not weary you, Lucile, with the details but I have succeeded in changing the rays as I wanted to and have discovered that light waves do not die out but by an energy transformation they pass off into another plane of energy.

You ask how I know? I know because with my improved Hewitt Ray I have disintegrated objects such as books, vases, flowers, and live animals and sent them traveling as part of the wave of light into the unknown world from which I have been receiving messages.

With the dials of my light-wave machine set to receive an answer from the beings with whom I have been in communication, I sent through the medium of the Hewitt Ray these objects and animals; and every time I sent something through, no matter at what time of the day or night, I received a message which I interpreted to mean that the objects were received.

Now, Lucile, all this preliminary explanation over, we come to the vital part of my letter. I have determined to go to this new world. It will be a simple accomplishment. I have built a large Hewitt Ray projector which will be automatically shut off after I have passed through. What sort of world I will find or what kind of people or beings I will meet I do not know. I believe they are friendly and will welcome me, but anyway I will soon find out.

Now, dear daughter, I will leave you. Enclosed you will find the keys to the laboratory and detailed instructions for working the light-wave receiving and sending set. Every evening at five o'clock I will endeavor to send you a message, according to the light-wave code I have worked out. It will make me very happy if you will answer.

Goodbye, dear. That you may keep well and happy is the wish of

Your loving father,
JOHN J. HEWITT.

## CHAPTER II

### Lucile Hewitt's Story

TO say that I was astonished and alarmed to receive this letter is describing my feeling feebly.

Darling old Dad, to travel along a light wave, into a new world filled, no doubt, with unknown dangers! Why, he was forever cautioning me to be careful! Even as late as 1945 he thought airplanes were dangerous! I have often begged him to let me take him for a ride

in my fly-about but he declared he did not have the necessary courage. Yet he risked his life daily in his beloved laboratory.

It is really too bad that I am not scientifically inclined. What a help I might have been to Dad! But I honestly tried to fit myself for a scientific career and it was not my fault that I failed miserably.

When Dad got out his Hewitt Ray and there was talk of utilizing it for travel, then my interest in science awoke. To travel with the speed of light! Imagine the thrill! Unknown to Dad, for I knew he would forbid me, I slipped away from school and volunteered for a demonstration trip along the Hewitt Ray. I was one of the 'intrepid souls' Dad speaks of. It was glorious! To place yourself before the ray and in a flash be hundreds of miles away! That is traveling!

When the use of the Hewitt Ray was discontinued my interest in science dropped. But my one great interest in life had been revealed to me. Travel—and travel with limitless speed! The next speediest thing I could find was the airplane and you may be sure I got one.

At the time I learned to operate my first plane I was sixteen years old, a wild, harum-scarum girl. As public interest in aviation grew, I grew right with it, until now, at twenty-six, I have been piloting a huge commercial airliner between New York and Honolulu for five years.

At first the public was sceptical about trusting its life to a woman's hands but now the New York-Honolulu Air Line uses only women pilots, as statistics show that a plane is ten percent safer with a woman pilot than with a man.

The morning I had received Dad's letter I had just come off duty. I had been on a six-day shift and now I had before me three days of rest. That was the regular schedule.

After reading the letter I went immediately to the laboratory. There the large Hewitt Ray machine attracted my attention. After examining it closely, I found the controls and with a little trepidation turned them on. A soft, almost invisible amber ray shone from the funnel-shaped aperture. Emboldened a little I took off my glove and placed it experimentally on the platform immediately in the glow of the ray. At first nothing happened, but then the glove began to glow with the same soft radiance of the ray and almost imperceptibly it disappeared, becoming a part of the surrounding light.

I next turned my attention to the light-wave receiver, tuning in and setting the dial at twenty. At once the visascreen burst into radiance. A succession of beautiful colors floated across. I reached out and pulled a switch marked "Spectroletope," and then a change took place on the screen. The beautiful colors were broken and separated, mingling and intermingling in a bewildering manner, tiny lines forming regularly through the whole. I watched it fascinated for a while, and then turned off the switch, humming a parody on a popular song:

*"It might mean something to someone*
*But it don't mean nothing to me."*

Well, Dad was gone and here I was with a laboratory full of marvelous equipment that I only faintly understood. I read his letter over again and tried to reassure myself that he was all right. But how could I convince myself he was safe? What kind of a world had he gone into? How was he going to return? The more I thought about it the more alarmed I became. Why hadn't he allowed me to go exploring this new world so he could stay here in his laboratory among his beloved scientific instruments, where he belonged? He was a marvelous scientist, but outside of his laboratory he was lost; he would always be a child to the world.

After two days of restless and troubled thoughts I determined to get someone to operate the machine and follow him through to that strange world. Acting on this decision I radiophoned my former classmate, Marion Wells, who was already successful in a scientific career. I had not been in personal touch with her for several years but had followed with interest her steady rise to fame. The whole world had her to thank for their clean, easy, and never-failing atomic household heaters.

### Marion

AFTER looking up her private wavelength I tuned in and in a few seconds her serious, spectacled face appeared on my television as her clear voice said "Marion Wells on the air." Then as she recognized me on her screen she smiled in friendly greeting. I did not go into detail but explained that I needed desperately the aid of her scientific knowledge and asked her to come to my house.

"Be with you in ten minutes," she promised and signed off.

And in ten minutes as I watched out the window, her auto-plane landed in a vertical drop below our driveway, its wings automatically collapsing as it touched the ground. I admired her skilful driving as she came through the gate and taxied under the trees up to the front verandah.

With our greetings over, she asked what the trouble was and after my halting and doubtless inadequate explanation of what had taken place, she said crisply, "Let's go up to your father's laboratory and examine the equipment. Perhaps I can get a better idea of what you are trying to tell me."

In the laboratory Marion showed the greatest interest in the Hewitt Ray; the light-wave receiver in fact seemed to be familiar to her. Then she turned it on and watched the visascreen awhile. Curiously, I asked her if she knew what the colors and lines meant.

"Yes, they are the international wave code system," she nodded. "Slowly but surely this manner of communication is taking the place of the old-fashioned method. The light-wave stations are more simple to construct and much cheaper to operate and the regular service provided is vastly superior to the old telegraph method."

When the wonders of the laboratory had been examined and tried out we sat down and tried to figure out some way of getting Dad back safely. Marion advocated waiting for a definite message from Dad, but I was too worried to consider that. I wanted Marion to stay here and intercept messages, while I went through to get Dad.

"But listen to reason, foolish child," Marion pleaded. "This plane of existence to which you father has gone is without a doubt as big as the world in which you are now living. Perhaps he has gone or been carried thousands of miles away and how do you expect to find him?"

"Well," I answered stubbornly. "If he is over there, perhaps he needs me and if he needs me I am going to him. I'll find him somehow."

"Very well. Tell me how you propose to get back once you find him."

I must have looked crestfallen for Marion reached over and patted my hand. "Don't worry, Lou. I have

a plan. We will have to get busy, though, if you expect to go through in the near future."

"Oh! Marion, I knew I could depend on you!"

Briskly she asked me for the manuscript Dad had written, and from it got a detailed description of how to build and operate the new Hewitt Ray machine.

"You see," she explained finally, "we will construct another ray machine and send it on through with you. That is your only chance to get back."

At once I became enthusiastic. So for the next few weeks we worked furiously. I had radioed my company for an extension of leave which was granted. One afternoon it was finished. Five o'clock came and we set the light-wave receiver according to Dad's instructions. Marion watched intently the message shown on the visa-screen, then frowned and consulted Dad's notes again.

"I am afraid, Lou, there is something wrong. That certainly isn't your father's private code. Nor is it the international code which I know."

"Perhaps it is the same message that Dad has been receiving," I said.

"Yes, that must be it. For some reason your father is unable to send his message and these beings are trying to get in touch with you."

"Oh! I knew something had happened to him," I wailed. "Let me go through now, Marion. You can finish the other ray machine and send it on later. I'll find it. It will have to arrive at the same place I do, won't it?"

"Hardly," she replied, thoughtfully. "But it won't be long now and a few hours cannot make such a difference. You had better play safe and wait for the other machine."

But it was morning before the machine was completed and I was able to start. I had dressed myself in my flying togs and strapped a 45 Colt and cartridges around me. A few clean handkerchiefs and a couple of packages of cigarettes completed my personal luggage.

Worried as I was, I was yet all athrill as I mounted the platform and gave Marion the signal to turn on the ray.

A faint glow surrounded me. I began to tingle from head to toe. Glancing at my hands I noticed that they glowed faintly. I was passing through! "Dear God, please help me find Dad!" I became numb. . . . A sudden gap appeared in my consciousness—then the tingling sensation returned . . . . ceased . . . . and I had passed through.

### The New World

FOR a few seconds I was bewildered. Where was I, and what was I doing here? Then my head cleared, I remembered and began to look about me. I was in an inclosure of some kind. The walls, ceiling and floor were snow white. I stooped and touched the floor. It felt like earth. I touched the walls—they were rock! I was in a cave, a snow white cave!

A cave must have an entrance of some kind, I reasoned, so after packing the Hewitt Ray machine back into a corner, I began to walk along the side of one of the walls. After walking about 500 feet, I came to a turn which I followed. Three times the tunnel through which I was moving turned before I saw an opening. The brightness reflected from the white walls gradually gave place to a pale pink flush which became deeper as I advanced until I came to an opening which was bathed in a rosy glow.

I stepped out cautiously and stood rooted to the spot in amazement. A softly glowing red sun rode high in a pale pink sky. I was on a low hill whose path ran down into a forest of scarlet trees. Hurriedly I ran down the path, the earth of which was as white as the interior of the cave, to get a better look at the scarlet trees. Were they really scarlet or was it just a reflection of the rosy sky?

In a few moments I was among the trees and saw indeed that it was no reflection which colored them. The leaves were bright scarlet, the trunks and branches snow-white like the ground. All around grew scarlet bushes, bursting into bloom with tiny silver-grey and pale amber-colored blossoms. A little farther on, a narrow brook rippled merrily and I decided to follow and see where it would lead me. All about lay peace and quiet. The air was soft and balmy, a direct contrast to the sharp winter winds I had left at home. It was a veritable fairyland, and made me wonder if Dad had come through near here and if so what he thought of the weird scenery.

At first I was a little fearful of meeting some strange animal or person but presently I became bolder and left the shadow of the trees, under which I had been traveling, and walked along the exposed bank of the brook.

Without the least warning, there broke upon the air the most frightful noise imaginable. Grasping my revolver, I fled to the shelter of the trees and from behind a broad, white trunk, I waited breathlessly as the dreadful noise drew near.

Nearer and nearer, and louder and louder came the noise until there burst through the bushes to my right the most astonishing sight.

Two enormous creatures, whether men or animals, I could not at first determine, for they seemed to resemble both, came tumbling into the road before me. That they were engaged in a fight to the death, I did not for a moment doubt. Screeching and yelling, they grappled and fought, broke apart only to rush together again and tear and bite until, in disgust, I turned away. When I looked towards them again, one was on the ground evidently in death agony but the victorious one still kept up the frightful noise, at the same time, tearing his still living opponent apart. The sight so disgusted and infuriated me that I forgot my own precarious position and, lifting my automatic which I still clutched in my hand, I fired at the hideous monster.

At the bark of the gun, the creature stopped his howling and stared stupidly about. At last, apparently locating the direction of the strange noise, he started in my direction. Thoroughly frightened now, I lifted the gun again, but before I could bring my trembling fingers to pull the trigger, he suddenly stopped, staggered, and fell with a crash and a long unearthly howl to the ground, where he lay thrashing about. When he finally lay quiet, I drew near, trembling and fearful at every step; yet my curiosity to see these strange creatures was stronger than any fear.

Upon the ground not very far apart lay the two great bodies. The one who had fallen in the battle was so mangled that I turned away to the one I had shot. The body, fully eight feet in length and weighing, I judged, around four hundred pounds, was covered completely by a short bristly hair. The feet and hands of the creatures were like great huge claws that looked cruel and powerful. But the face! How shall I describe it? If the body, except for the claw-like hands and feet and the short hairs covering it, was human there was nothing human about the face. The monstrous head, looking too heavy even for the enormous and powerful body and neck supporting it, was flat on top and back, coming in front to a blunt point with two open nostrils. The eyes,

now fixed with a glassy stare, were small and green, and the mouth, a thick-lipped enormous slit, was drawn back in a snarl, showing a double row of sharp cruel teeth. There was no chin, the lower jaw sloping abruptly to the neck. All in all, he was the most loathsome and fearful object it had ever been my misfortune to encounter.

## CHAPTER III

### Captured!

WITH an uncontrollable shudder, I turned away. If this were a specimen of the inhabitants of the fourth dimension I must find my father immediately and take him back to our own world.

I walked on, wondering where my father was. Was he held captive by these creatures? Perhaps I could find their village or city and after dark scout around and see if there was any sign of Dad.

Suddenly a twig cracked sharply in the bushes beside me. I looked about in swift alarm. Was I being stalked? With flying feet I made for the low trees ahead. A long howl came from behind me and the thud-thud-thud of a heavy fast-moving body sounded. Faster and faster I ran but ever behind and dangerously nearer every few seconds came that ominous thud.

Twang! Something flew by my head and to my horror a strange but wicked-looking arrow-like missile buried itself in the soft white earth before me. I ran on until the path abruptly ended at a wide chasm over which it was impossible for me to jump. I came to a halt. What should I do? Drop to certain death or stay and submit to a captivity fraught with untold horrors? "Never! Never!" I fiercely whispered to myself, as my hand quickly flew to the temporarily forgotten automatic at my side. Too late!——My pursuer was right beside me and before I could draw my gun I felt clawlike hands clutching me and saw piggish eyes close to my own.

He picked me up and throwing me over his shoulder like a sack of flour, let out a howl of triumph and started swiftly through the trees. My sensations, then, were brief for with that howl coming so close beside me I sank into a merciful faint.

When I came to, I found myself lying on the ground completely surrounded by these repulsive creatures. No one touched me but all looked at me curiously, gibbering in excited gutteral tones. Evidently I was a novel sight to them.

I sat up and there was a startled movement in the crowd. H'm! I thought, they are not quite sure of just how dangerous I might be. No one molested me and I sat there for some time surrounded by my curious audience. I was hungry but no one seemed to think of offering me food. Finally I lit a cigarette. If they were startled when I sat up they were panic-stricken at the sight of the tiny flame and smoke. They fled in all directions and gazed at me from a distance.

"The fools," I said. "Do they think this is some kind of an infernal machine?" I was hungry and cross and their foolish fear did not amuse me as it ordinarily would have. Finally a line of the creatures approached me armed with bows and arrows. The leader courageously came forward and motioned for me to put down my fearful weapon. I ignored the obvious command and calmly blew a cloud of smoke towards him. Immediately a shower of arrows embedded themselves in the ground around me. I do not think they intended to wound me, they were merely warning me to obey, which I now prudently did. After that I was let alone and I began to stroll about, a group of the creatures following at a safe distance.

It was a curious contrast between the beautiful and fairy-like scenery and these hideous creatures who were oblivious of its beauty.

I walked all around but look as I might I could see no sign of Dad. Deciding to try to get some information from these people, I beckoned to one who seemed to be the leader and by various signs tried to ask him if there were another creature like myself in their midst.

At first he stared at me stupidly, then the little piggy eyes lit up and he turned and motioned me to follow. I did so with a beating heart. Perhaps they had Dad hidden away somewhere in this wilderness! If so, he and I together might find some way of escaping from these beastly people. Surely they were not the ones who had been sending messages to Dad: they were rank savages.

### Flight

MY guide led me into a thicket and we followed a narrow path through the scarlet growth until we came to a clearing. There before us stood an aircraft of peculiar design and on the ground near it lay a woman. But what a woman! Tall almost as the creature beside me, she was magnificently proportioned. Short, crisp black hair covered her head. Her face was beautiful but the features were set in grim lines. An arrow had pierced her left breast and her clothing, a single blue tunic, was saturated with blood. She was dead, but my heart lightened considerably at the sight of her and her aircraft. These savage beast men were not the only inhabitants of this plane. Another and more intelligent group of people were here also and, no doubt, they were the ones who had been communicating with our world by way of the light-wave machine. Even now, Dad might be with them!

I turned from the figure of the dead woman and scrutinized closely the vehicle beside her. It was an aircraft of the enclosed cabin type. I had never seen one just like it before and I itched to get in and try out the various strange-looking controls I could see through the glass of the cabin door.

By pantomime, I asked permission to enter and investigate the machine. But my guide, hastily placing himself between me and the car, motioned me away.

Waves of fury mounted to my brain. Was I to let a stupid savage keep me prisoner when here was a chance to get away? My hand slid along my belt and I cautiously grasped the butt of my gun, which my captors, not knowing what it was, had not bothered to take away from me.

Not by a flicker of an eye did my guide show that he thought he was in danger, but he kept motioning me to go back the way we had come. Go back and miss this wonderful chance to escape?—Not much!

Quickly I drew and fired pointblank at the creature's leg. What a howl he let out! Between the noise of the shot and his terrible howling, the whole pack would be here soon. I pulled open the door and hastily climbed into the plane.

"Oh God! please let it work!" I grasped a handle and pulled. With a suddenness that took my breath away, I shot vertically upward. Recovering, I pushed the handle back to the first notch and the car ceased its upward flight and shot forward. Well, I didn't know where I was going but I was on my way!

A few manipulations of the dials and switches and the strange-looking knobs on the control board, and I

soon learned what they were for. I flew in a straight line, hoping for a sight of civilization, but for mile after mile I could see nothing but the red sun above and the scarlet forests below.

Suddenly, as three tiny bulbs in the front of the cabin lit up, the vehicle swerved sharply to the right and I found myself traveling at a right angle to my previous direction. I was alarmed. I had made no change in the controls, yet of its own volition the car turned and traveled in the new direction at terrific speed.

In the distance I made out a tiny speck which gradually, as my car hurled itself forward, became larger and larger until it assumed mountainous proportions. I was headed straight for it and none of my feverish manipulations of the levers or dials would swerve my car one inch!

Suddenly the speed of my car slackened and at an easy pace it glided to a gentle landing on top of what I took to be a flat-topped mountain. With hardly a perceptible jar, the car halted and the tiny globes turned off.

For a few moments I was too astonished to think; then the explanation flashed on me. Remote control! I had been guided here by an unseen force. Did they, whoever controlled the latter part of my trip, know I was coming and in that manner help me along; or had I accidentally come into the field of a control station? If so, then there ought to be some sign of human habitation. But look around as I might all I could see through my window was the flat top of this mountain or plateau.

### Mavia

JUST as I was wondering what I should do, I felt a sinking sensation and looking out I saw that I was being gently lowered into this mountain! What next, I thought fearfully? But immediately the plane came to a halt and to my amazement I saw that it was in a line with many similar planes.

I opened the door and stepped out into what must have been a huge hangar. Then I heard a low hum and looking up in the direction of the sound I saw the roof open and another flying car gently descending. My own and the other cars moved soundlessly down the line making room for the descending machine, which settled into the place previously occupied by my own plane.

The door opened and out stepped what looked like the counterpart of the dead woman in the scarlet forest! She looked startled at the sight of me for a moment, then gravely held her hand up palm outward in what I took to be a greeting. Just as gravely I returned the salute and the woman smiled and spoke in a strange tongue.

I answered in English. Though neither understood the other we simultaneously laughed, and she companionably linked arms with me and led me to a wall. A row of buttons studded its side, one of which she pressed. After a slight click an opening appeared. Though I expected to step into some kind of an elevator there was nothing in front of us but a lighted space. Unhesitatingly, the woman started to step through but I fearfully held back.

We were at a deadlock for a few minutes until another woman came around a corner and the two talked together a moment in their strange language. Then the second woman laughed and without hesitation stepped into the void. I expected to see her crash to the bottom, but instead, she floated gently down.

With grave misgivings, I let my companion lead me through and we too gently sank down through the void. Then our descent became slower and ceased altogether before another door, through which we stepped. We were now, I reasoned, on the second floor from the top.

A long vista of hallways from the great arched doors greeted us. Hurrying past many of them we at last entered one. At that moment I do not know exactly what I expected, some kind of oriental splendor, I suppose, but what I saw was only a very business-like office of some sort, where many women were busy operating peculiar looking machines. They reminded me of the electro-typists at home.

Passing through this room we reached a private room and my companion motioned me to be seated. She then pushed a button on her desk and another woman from the outer office entered, carrying what looked like a football head-gear with wire attachments.

Following my companion's example, I put the thing on my head, then looked at her. Smiling she spoke, and to my astonishment I understood every word she said.

"Welcome, Visitor, to City 43 of the Second Evolutionary plane. May I introduce myself? I am Mavia, chief factor of this city and in the name of my comrades-in-rule, I welcome you and put ourselves and our city at your service."

It was quite an elaborate speech and as I wasn't exactly sure of what she was talking about I answered hesitatingly.

"Thank you. I feel very strange. I am Lucile and I came here from the third dimension, looking for my father."

"Oh, you are from the third dimension? Really? I had no idea that the beings of the third dimension had evolved to the point of inter-dimensional travel. Very interesting. You said something about another of your world being here?"

"Yes, my father. He was receiving light-wave messages from this world and by using an invention of his he came through. I was worried about him so I followed him through. Have you seen him?"

"No. I am sorry to say I have not. Nor have any of the other Second Evolutionary cities or I would have had a report on it."

My heart sank. Poor Dad. Where was he? Mavia went on speaking.

"You say he was receiving light-wave messages? I think I can explain that. But first let me tell you about ourselves, then you will be able to follow my explanations more easily.

## CHAPTER IV

### The Three Evolutions

"THIS world in which you now find yourself is the fourth dimension. In it are the beings of the First, Second and Third Evolutionary planes. The first plane consists of savages of a very low order—just now they are emerging from the beast stage into the human."

"Yes," I interrupted eagerly. "I have seen them. I was captured and held prisoner by them. They have killed one of your women and I escaped in her airplane."

Mavia seemed unmoved by the accident to her comrade.

"That was Doona, my second in command. Against my advice, she ventured alone in the scarlet forest. I recognized her plane in the hangar and wondered how you came to be using it. So she is dead? Well, we must all die sometime." She shrugged her shoulders.

"The Second Evolutionary plane consists of ourselves. We have seventy-nine cities. Each city is like the one you are now in. They were originally mountains and our cities are built inside the mountains as a means of defense against the first and third planes, who are continually waging wars of extermination against us.

"Our plane consists almost entirely of women. We keep just enough men to maintain the race. These few masculine creatures that we allow to live are kept in luxury and idleness. They are well taken care of and have no complaint. A very long time ago, many centuries in fact, the men were the ruling sex of this plane, but gradually the women demanded equal rights and once we gained a footing, it wasn't long before we were ruling the men. Those were bitter and bloody days. We call them in history 'The Sex War Epoch.'

"Eventually the women won, and we destroyed millions of the despised masculine sex. For untold centuries they had kept women subjugated and we finally got our revenge."

"Oh!" I said. "In our world the women are getting equal rights with the men. For a long time we, too, were held back but now we stand shoulder to shoulder with the men. I hope we won't have any sex war. That would be horrible."

"Time will tell," Mavia answered. "Now, Lucile, are there any questions you are eager to ask, because I know you are hungry and we will continue our conversation after you have eaten and rested."

"First, tell me how it is that we understand each other when we both speak different languages?"

Mavia laughed. "It is very simple. By means of sensitized plates within these caps your spoken thoughts vibrate along those short wires and are received and translated by the wires on my cap and come to me as if spoken in my own language. The same thing happens to my spoken thoughts. In other words, these caps are tiny thought-wave sending and receiving sets. We have had them from the time the men were the ruling sex. At that time each of our cities was a separate nation speaking its own language and making its own laws and warring upon each other. When the women took control of things we internationalized the languages and laws and now each city is a part of one great whole. The Second Evolutionists are now equal to the Thirds in every way. Before, we were beset by outside foes and our strength was being continually used up in civil wars. Now that we are organized we are able to strengthen our forces and in time we expect to be the only evolutionary plane in this dimension."

"How was it," I asked, "that we did not crash when we stepped into that void between floors?"

"Because the minute we stepped off the floor our bodies lost almost all weight with the lessened force of gravity from above the shaft. The fact that we did not stay stationary in the air but floated down was due to a gentle but persistent counter-pull exerted on our bodies, gradually giving them weight until we reached bottom. Now, Lucile, I am going to take you to my apartment where you will rest and eat, for I have much more to tell you and tomorrow is to be a busy day. Come with me."

We left the office and floated down another shaft to the floor below. Mavia explaining, as we went, the general layout of the floors we were traversing. The top floor was devoted entirely to the airplanes. The second floor—that is, the next to the top—was the office floor, and the third to the tenth were devoted to the living quarters of these remarkable women. I was extremely worried about Dad, but felt confident that Mavia would help me to find him.

When we stepped onto the third floor I was startled to see an immense insect crawling towards me and I drew back in alarm. Mavia said:

"Don't be afraid. That is one of our servants. It is of the ant family and by careful breeding we have developed them to this size. They make highly efficient servants, each one trained to its own task. They are perfectly harmless. Countless centuries of selective breeding have eradicated all vicious tendencies."

"Perhaps it has," I quavered, "but they don't look it. Please don't let any of them wait on me."

"Just as you say," Mavia replied, courteously, "but I assure you they are very gentle."

### What Happened to Males

I NOTICED in the center of this hallway, or street as Mavia called it, a wide section in the floor, bisected and moving along in opposite directions while at either side an equally wide strip remained stationary. We now stepped onto the moving roadway and we were carried at a swift pace to our destination.

Mavia's apartment was strictly utilitarian, bare almost to emptiness. Only the most necessary furniture stood about. I expressed a desire for a bath and she ushered me into a room and instructed me to strip except for the thought transferring apparatus and stand under what I took to be a shower. She then turned a wheel and a bright light filtered down on me.

"Where is the soap and water?" I asked.

Mavia said: "This is our method of cleansing and rejuvenating the body. Those radio-active rays cleanse the skin and penetrate the pores, revivifying the body with new life and strength."

It was true. The dust and grime I had collected disappeared and although I had been feeling fatigued I now felt as if I had been resting. Mavia presented me with one of her tunics to wear instead of my cumbersome flying suit.

The tunic on her barely reached below her hips, but I was so much smaller that it came modestly to my knees and after strapping on my automatic I felt quite dressed up.

We went next into the dining room and Mavia, dismissing three giant insect servants, waited on me herself. First she went to the wall and operated a machine that resembled a portable typewriter. Then she opened a section of a wall and pulled out a table with dishes and service on it. By the time she had arranged it, a slight buzzing over the typewriter affair was heard and Mavia removed from a section in the wall a little tray. Strange but delicious foods were placed before me and I ate heartily.

During the course of the meal I asked her where the food came from and she said that on the thirty-first floor were the kitchens where food for the whole city was prepared and on the floors thirty-two to fifty agriculture was successfully carried on by means of artificial sunlight and irrigation.

"Mavia, tell me," I asked finally, "do you think you could help me find my father?"

"If he is where I think he is, perhaps I can."

"Thank you," I replied. "Please go on with your descriptions of the three evolutions of your world. You left off at the sex war of the second evolution."

Mavia complied. "After the war there was complete chaos for a while. Women were not used to their

power and it went to their heads. They wanted to kill every male creature in the second evolutionary plane, for they were tired of child-bearing and child-rearing. A few of us who were able to withstand the headiness of our triumph took hold of things and prevented the complete extermination of the males, until we could see whether or not they were necessary to the future of our race."

"I should think," I interrupted, "that with your advanced knowledge of science you would have been able to produce young without the actual help of the male. In our world we have certain low forms of life that do that very thing."

Mavia laughed heartily. "We did try it and you should have seen the results. Perfect monstrosities. We did not want our race to deteriorate, so we went back to the age-old method.

"The males who had escaped extermination were put through rigid physical and mental tests. Those of a high average are all housed on the twelfth floor, as you call it, and these men are called the reproducing males.

"Every woman is required by law to give to the city two children which, by improved scientific methods, she does with a minimum of pain and time.

"The males whose intelligence average was below our mental standard but who had physical beauty were made sterile by a special process and housed on the thirteenth tier."

"But you don't need these sterile men," I said. "Why do you keep them?"

Mavia smiled grimly. "We changed a lot of things but we were unable, without danger to the future of our race, to change the fundamentals of natural instincts. When we women have borne two children to the race we are not allowed to reproduce a third time. Nevertheless the old biological urge returns and then we find use for the sterile male."

"But that is downright immoral," I objected.

### Planning the Raid

MAVIA frowned. "What is morality? Isn't it living in such a manner that you are able to give the best of yourself to the race to which you belong? What we consider proper would probably be condemned as immoral in your sphere. Yet were I to visit you, no doubt I should be shocked by many of your customs that you people either put up with or ignore. Am I not right?"

"I don't know," I answered. "It still doesn't seem right to me."

"Well, to you with your present standard of morals it isn't right, but to us it is a highly efficient manner of settling our difficulties. But let's get back to our explanations of the three evolutionary planes. We, you understand, are of the second evolution, and there is yet another plane, called the third, whose inhabitants are our deadly enemies.

"They are horrible grotesque creatures, with abnormal mental developments. They have tiny weak bodies and enormous heads. Clever machines carry them around and do the physical acts that their little wizened bodies are incapable of performing."

"Why are they your enemies?" I asked, curiously.

"They fear us," Mavia replied. "They are afraid that we will evolve to the point where we shall take their place. But, although they don't know it, we are quite content to remain on our present evolutionary plane with which we are very well satisfied. Nevertheless, we shall probably have to exterminate them for the safety of our own race. Now about those light-wave messages—"

Just then a knock sounded and about fifteen women entered, all wearing the thought-wave caps. They were prepared to meet and converse with me.

Mavia introduced them. They were all fine, intelligent, well-developed, good-looking women and they gazed at me with disguised curiosity. I could easily stand under the arm of any of them. For a time they kept me busy explaining the customs and accomplishments of our dimension until finally Mavia rapped for order.

"Comrades-in-rule," she said, "just as you came in I was explaining something to our visitor which I think will be of interest to you as well. A man whom she calls 'Father' had been receiving light-wave messages from this world. By means of a disintegrating ray this 'Father' has traveled through from the third dimension to this one. Lucile was captured by the First Evolutionists and 'Father' was not with them. We know that he is not with us, therefore he must be with the Thirds.

"As you know, the Thirds are planning a raid upon us and, no doubt, the light-wave messages that 'Father' has been intercepting were calls for reinforcements from those horrible beings of the second dimension."

A murmur of horror came from the women. It amused me to hear Mavia call Dad "Father", as if that were his given name.

Mavia went on. "My suggestion is this: The Thirds do not know we have this knowledge of their proposed raid, so why not take them unaware by a midnight attack and with our newly-perfected rays, wipe them out of existence?"

A cheer went up and it was quite a few minutes before I could make myself heard. "My Father!" I wailed. "If he is with these Third Evolutionists and you wipe them out—what will happen to him?"

"I'm afraid it is unavoidable, but if he is with them he will have to go too."

Hysterically, I began to cry and beg them to save my father from destruction. They gazed at me in amazement. I suppose such an exhibition of emotion was totally unfamiliar to them. Finally Mavia awkwardly patted my back and said:

"I am sorry if we wounded your sensibilities, but we, of this world, are accustomed to considering the good of the race before individual preferences. Yet, you are our guest and we will make an exception in your favor."

"You mean you will save my father?" I cried joyfully and to everyone's astonishment I threw my arms around Mavia.

"Just a second," she cried. "I do not promise positively that we will be able to save him, but we will endeavor, for your sake, to do so."

"Thank you all," I said quietly. "I feel as if father were saved already."

"Well, now that that is settled, we will have to get busy and prepare for our midnight attack. You, Calissia, I appoint as guide and instructor to our visitor. Show her over the city. You are both to return here to my apartment and I will assign you your place in tonight's raid."

One of the women rose and saluted and together we left the apartment.

## CHAPTER V

### Exploring

CALISSIA I found to be a very pleasant companion and with her I explored the city, descending from floor to floor, or as I should call it, tier to tier.

The first three tiers I had already seen and as the next six were the same as the third, that is, women's apartments, we dropped down an express shaft from the third tier to the eleventh. There the scientists worked. The whole floor was a huge laboratory and I met many women who had heard of my presence and were anxious to meet me. Many of them tried to explain to me the wonders of the various experiments they were conducting, but I am afraid that most was beyond me. But how Dad would have enjoyed it!

On the twelfth floor were the quarters for reproducing men. I will admit I was anxious to see them. We went straight to the recreation section where we found hundreds of men walking around or reclining in comfortable chairs reading. They were not as tall as the women and were dressed almost similarly. I expected to see effemnate creatures simpering about, but instead I found a group of men, who except for their peculiar shoulder-length hair might have been men of my own world.

On the next floor, however, my expectations were more than justified. Curled and perfumed and elaborately dressed, these unfortunate creatures gazed coyly at us and I urged Calissia to take me away at once. We went on to the fourteenth tier and saw the community shops, where one could get anything from a new tunic to an airplane.

The fifteenth tier held the city nurseries where, cared for by the giant insects, were children of both sexes. Poor little mites! They simply walked gravely around or played sedately with educational toys. There did not seem to be that spontaneous joy of living, characteristic of the children of our own world. The older children were grouped into classrooms where they were being educated for the particular career in life for which they were destined.

The sixteenth tier contained the hospital where feminine doctors and assistants bustled efficiently about. One particular case the doctors insisted on showing me. I protested that I did not know anything about surgery or medicine, but Calissia said: "Do come and see it. It is a perfectly wonderful piece of work and our doctors will be offended, as they are justly proud of themselves for having accomplished it."

Reluctantly I accompanied them to a private room where we found a woman seated at a table busily writing. As we entered she arose and came towards us, evidently pleased at our visit. I was introduced and the doctor in charge said. "We will now show you the triumph of science over the crudities of nature."

The patient took off her tunic and I saw that in her left side was a transparent square that looked like glass but was soft, like flesh, to the touch. Through this I could see her heart beating. Tiny wires connected to the heart came up under the breast and were connected to a small, flat, box-like object fastened under her left arm.

"Very clever, but what is it all about?" I asked. I suppose they thought I was awfully dumb but very courteously they explained:

"In the last raid upon the Thirds, the patient was wounded through the heart. When she was brought to us she was dead. Dead but still warm. As she was in perfect physical condition except for the wounded heart we decided to try out an experiment we had been working on. Her flesh and blood heart was removed and this artificial rubber heart inserted. It worked. Pumping blood through the system it brought back life and now she is just as well off as before the accident."

"Is it possible?" I exclaimed. "What keeps it going?"

The doctor pointed to the flat object under her arm and explained, that this tiny box contained stored up electrical energy which operated the rubber heart. The electrical apparatus had to be renewed about every thirty days.

I thanked them for the interesting exhibition and we went on down through the next fourteen floors where factories and centers of manufacture were located.

Tier thirty-one I explored extensively. Food in huge quantities was being prepared and I thought of what a boon such a system would be to many tired housewives. Huge automatic refrigerating systems helped keep the food pure.

We next visited the agriculture tiers. From tier thirty-two to tier fifty inclusive, were acre upon acre of growing crops. Overhead were immense lights that supplied the sunlight needed by all growing things while cleverly arranged sprinklers watered the crops. All about were the giant insects industrially farming.

Tier fifty-one, Calissia informed me, was set aside for the exclusive use of the huge ants, where they had their living, breeding and training quarters. When I declined to visit them, Calissia suggested that we return to Mavia's apartment.

"Are there no more tiers? Have we reached ground level?" I asked.

"Oh, no," Calissia replied, "we haven't reached ground level. There are many more tiers, some even below ground, but they are used mostly as granaries, store houses and burial vaults for the ashes of our dead. And below them are the old, unused prisons."

"What do you do with your prisoners if you do not use the prisons?"

"We do not have any prisoners. If anyone shows criminal tendencies, he is scientifically treated to eradicate such impulses. If the treatments are successful, he is restored to society but, if they are not, then he is painlessly put out of the way."

### The Trial

ON the way to the upgoing shaft, Calissia showed me ultra-violet artificial sunlight containers that diffused an even health-giving light over the whole city. Nearby were the machines for manufacturing the artificial air which they breathed.

We had by then reached an express shaft going straight up to the third tier. Curious, I asked as we were drawn swiftly upward by an unseen force, how this shaft was operated. Calissia explained that when we stepped into the bottom of the upward going shaft, we kept our proper weight but huge magnetic beams from above drew us irresistibly upward. But for all the reassurance of her explanations I drew a great breath of relief as we stepped out of the shaft onto the solid ground of the third tier.

When we reported to Mavia, she requested Calissia to preside over the trial of an insubordinate reproducing male. When it was suggested that perhaps I would find it interesting to attend, I agreed willingly, and accompanied Calissia back to the twelfth tier.

We found a group of five women, seated comfortably, while before them stood the defendant, his head thrown back and a light of rebellion flashing from his handsome dark eyes.

Calissia took her place and motioned me to a seat beside her. She then requested them all, the man included, to put on the thought-wave caps so that I could follow the trial.

While one of the women procured and distributed the caps, I studied the defendant.

Slightly built but straight as a sapling, he stood before us. He was very good-looking. I suppose, being a woman, it was natural that I should notice his good looks first of all.

Back home I had had no time for the usual run of men, though I was by no means a man hater. Some day, if I ever met the right man, I knew I would marry. But somehow or other the men with whom I came into contact either left me cold or, if they did appeal to me, they usually aroused my antagonism by their airs of superiority. We women knew we were the equal of the men, but it was taking a long time and much hard work to convince men of our equality. I intended to marry no man who did not look upon me as his equal, mentally and physically.

But back to the trial. Calissia was speaking.

"What is the charge against the defendant?"

One of the women arose and said: "He is charged with talking sedition to the other men and of trying to arouse them to a revolt against the present system of government. We have a witness."

Calissia called for the witness and another man was ushered in. His air of cringing subservience disgusted me and I noticed that even the other women looked at him with good-natured contempt.

"Your name and position?" asked Calissia.

"I am Soonta, Section Head, Number Six," the newcomer answered with a sly glance of malice at the defendant. "That man has been a source of trouble ever since he was sent up to us from the training rooms. He always talks of the terrible way we men are treated—those are his words," he hastily explained. The women nodded indulgently and Soonta continued:

"Finally he got so bad that he declared he would die rather than submit to such a life. He refused to meet the women when they came to visit us and sulked in his room. I tried all the known ways of making him conform to custom but it was useless. Nothing was left but to report him as insubordinate."

"Very well, Soonta, I will make a note of your zeal. You may go now. Defendant, what is your name and what have you to say in your defense?"

The defendant spoke and a thrill of sympathy went through me as I listened to his proud reply.

"My name is Joburza and the charges against me are perfectly true. I abhor the present system of government and I hate you women. You are tyrants of the worst sort. I refuse to submit to this reproduction. When you condemn me, I will gladly go to the Lethal Chamber. In fact, I prefer annihilation."

"No doubt you do," Calissia sneered. "But I think that with a few treatments in the electro-coma room to reduce your present mentality, and a passage through the bonite-ray sterilizer you will be ready to take your place with the thirteenth tier men."

Joburza visibly wilted. Fear and loathing lent a desperate note to his voice: "I beg you. Grant me the boon of death. Anything, anything, rather than the thirteenth tier!"

The women laughed cruelly and one of them said: "Once you pass through the mentality-reducing room you won't care very much. We will see that special attention is given to eradicating your pride."

"Won't you have any pity?" Joburza pleaded, gazing at us all as if we were monsters.

### A Joke on Someone

I COULD not stand the cruelty any longer, so presuming on my status as a welcome visitor, I asked permission to speak.

"I have a request to make. I am a woman like yourselves. If it is not offending your customs, I would like you to let me have the prisoner, to do with as I wish."

An astonished silence greeted my request and Joburza gazed at me suspiciously, wondering, I suppose, what particular form of cruel punishment I desired for him.

"Would you mind telling us what you wish to do?" Calissia asked.

"I want to take him back to my dimension with me."

"Why?" The question was asked simultaneously by all the women.

"For—for—" I thought desperately—"For scientific experiments!"

"Well, it is a peculiar request," Calissia stated. "But then, having you here is a peculiar situation. What do you say, comrades-in-rule? Personally, I am in favor of it. At least it is a novel form of punishment."

The other five women agreed, and carefully hiding my elation, I asked to speak to the prisoner alone.

When the other had gone I asked him if he were glad that he was saved from his punishment.

"I do not know," he replied stiffly. "Perhaps the experiments you have in store for me will be more degrading."

"Poor Joburza!" I said. "Cheer up! I have no wish to experiment with you. I only said that because I wanted to have you turned over to me. I want to help you."

"Help me?" he questioned. "You—you—mean—?"

"I mean, Joburza, that I will take you through to my world, where everyone, men and women alike, have a chance to live and work. You will be free, absolutely free, to live your life as you see fit. Do you understand now?"

"Is it possible?" he murmured, gazing earnestly at me. "I can—I—Oh! It seems too good to be true. How can I thank you?"

"You needn't even try. Just show me by your conduct when we reach my world that I have not made a mistake."

"I will! I will!" he promised, tears of gladness coming into his eyes.

Just then Calissia came in and said Mavia wished to see me in her office. "I think she has some good news for you."

Requesting her to see that my prisoner was taken care of, I fairly raced up to Mavia. "Ho!" she jested, "I hear you have a prisoner. I think turning him over to the third dimensioners is a very good joke," she laughed heartily.

"Yes, indeed!" I replied brightly, but I failed to explain whom the joke was on.

"Come over here, please, I have something I want to show you."

On one side of her office was an affair that I had taken to be a radio. Mavia twirled a few dials and the wall above it lit up. I looked and saw waving scarlet trees with the setting sun, now a great lavender ball,

sinking slowly behind them. "Oh!" I exclaimed, "It is a window!"

Mavia smiled. "No indeed; even if it were a window we would not see out of doors as my office is centrally located."

"Then it is television. We have that, too, but our screen only records black and white. How beautiful. This seems just like looking out of doors."

"Wait just a second." Mavia set the lower dial and plugged in a short wire. I suddenly had the sensation of traveling at a terrible speed. The scenery flashed by. Huge mountain after mountain was passed in a second.

"Those are our other cities. The bi-focal wave is picking them up and recording them on the screen as it passes on its way to its focus. Watch closely, I think you will be interested.

The last mountain passed. We came to the end of the scarlet vegetation. Great barren wastes flashed by. In the distance, but rapidly looming large as we seemingly came closer, was a dense purple mist. For a few seconds the screen was clouded. Then it cleared and we were over what looked like a great bee farm.

Down we dropped. Hive after hive passed us. I call them hives as that is exactly what they looked like, but in reality they were houses. We swerved and a hive larger by far than the others completely filled the screen.

## CHAPTER VI

### Dad Again!

SUDDENLY the screen changed. We seemed to have penetrated the wall and were traversing an immense corridor. A great metal door barred our path. Through that we went and seemed to stop on the inner side of it, for a complete room was before us.

In the grotesque-looking creatures in the room I recognized, from Mavia's previous description, the beings of the Third Evolution. And in the center of the room, talking earnestly was—

"Dad!" I cried, jumping up, completely forgetting that what I saw was only a photographic reproduction of a scene, actually taking place thousands of miles away.

"Is that 'Father'?" Mavia inquired. "I thought so! We located him about an hour ago and fifty of our best women scouts have gone to rescue him. We would have seen them through the screen, only they are traveling at a higher altitude than our line of vision. Do not worry about 'Father' now. He will be here with you shortly. Do you wish to watch the battle?—No, I believe it would be too harrowing to you," and she switched off the screen.

"You see," she continued, "by sending these scouts to get 'Father' the Thirds will not be looking for another attack tonight and consequently they will be off their guard."

I could see that she was talking to give me time to compose myself and I did my best to appear calm but that one glimpse of Dad among those horrible inhuman looking creatures had almost unnerved me. I asked Mavia to tune in again and see what was happening, but she was firm in her refusal. Instead she began to question me about the Hewitt Ray. I told her all I understood about it and she suggested that while we were waiting we should try to locate the cave in which I had left the second model, so that she could send some one for it.

While she was directing the unseen eye over the countryside I said "I suppose you are anxious to get rid of us. My father and I are causing you a lot of trouble."

"Not at all," she answered. "We enjoyed having you here. But only as visitors. When your visit is completed you must go back. We are much too busy living our own lives and working out our destinies. We do not care to take on the responsibility of trying to fit in our lives with those of an odd dimension nor to take the time and trouble to fit the odd dimensioners into our life."

"Will you explain something that has been puzzling me, Mavia?" I asked. "I always understood that if a being of one dimension passed through into another dimension, he would find everything appearing to him at odd angles or in cross sections. How is it that everything seems the same to me? I mean that you seem to have the same number of dimensions as I?"

"I know what you mean." Mavia answered. "But here is something that the theorists have not taken into consideration. When the object or person passes from one dimension into another, it, or they, immediately takes on the dimensional proportions of the new plane of existence. For example, you, a three-dimensional being, in passing into the fourth dimension, took on an extra dimension, which you will lose as you pass back into your own plane. That is why we look normal to you and you look normal to me.

"Whereas, if this Hewitt Ray of yours permitted you to remain in the third dimension and gaze through into the fourth, then you would have seen us in what would appear to you as a cross section or, as you say, in peculiar angles."

She had located the cave containing the machine, and after taking the figures denoting the exact spot, she pressed a button and gave the order to a woman who entered to recover it.

We next went to her apartment and she and I both refreshed ourselves with the radio-active bath. While we were resting, a knock was heard, the door opened and dear old Dad and his rescuers came in.

I flew to his arms and could hardly let go of him in my delight.

"Dear me! dear me! — It's you, Lucile?" Dad's eyes were twinkling. "I thought for a minute that one of these strange ladies was hugging me. But now I see it is you, all dressed up in their clothes."

Amid much laughter, Mavia dismissed the scouts and ordered a meal for the three of us. Dad related his experiences. His eyes shone with delight as he told of the new science he had learned by this trip. He did not seem to realize that he had been in grave danger.

### What Happened!

"YOU know," he was saying to Mavia, "Those Thirds, as they call themselves, are mighty smart creatures. I tell you their scientific accomplishments nearly had me floored. But I had a few tricks up my sleeve with which they were unfamiliar," he chuckled. "Miss Mavia, do you know I nearly conducted a war against you young ladies? For a fact! I understood from the Thirds that you were a bunch of savages, threatening to pull down their civilization, with its accumulated scientific knowledge. And here you are, a group of pretty ladies playing at politics."

"I think you will find us doing a little more than playing," Mavia said coldly. "And as for scientific knowledge you won't find us far behind the Thirds. Now, Lucile, I am going to be very busy for the next hour or

two. We have decided to set the hour of attack ahead and I must go. You and 'Father' have the freedom of the city. All are instructed to treat you courteously. Show 'Father' around, or, if you wish, just rest yourselves. You are at freedom to do just as you please."

"Mavia, before you go I want to—" I began, but she cut me short saying:

"Now, now—No 'Thank You' if you please. You are our guest and it was our duty to help you," and she was gone!

Dad and I looked at each other. He had a heavy frown. "Come! come! young lady. I want to know what you mean by following me around this way?"

I giggled. "Now Dad! Don't play the heavy father rôle. It isn't becoming to you. I am dying of curiosity to know how you were rescued. Mavia shut off the screen before the excitement started. I saw you standing in a large room talking to those funny-looking people. Then what happened?"

"Why I hardly know myself. I was explaining the use of certain explosives in warfare, to the Chodrom or head Third, when suddenly, the walls of the room began to crumble. Through the openings came beams of light that, when they touched the Thirds caused them to crumble just as had the walls. I stood still, momentarily expecting one of the beams to touch and finish me but to my surprise the beams flashed over everything, leaving me unhurt.

"Then when the walls had given way sufficiently, a bunch of curiously-armored young women rushed into the room, grabbed me, none too gently, hustled me out into the opening where I saw a number of aircrafts surrounding the building and operating the deadly rays that were destroying it. I presume from its action, that the ray is derived from a very low wavelength of the ultra-violet, which after it had passed a wavelength of—"

"Oh, Dad!" I cut in impatiently. "Please forget the wavelengths and go on. What happened next?"

"Well I was hurried into one of the air machines and almost immediately we all took to the air. For a few moments I was scared stiff, I mean literally. As you know I had never gone up in an airplane before but soon there was enough excitement to take my mind from my fright at finding myself in the air.

"From out of the other buildings poured thousands of the Thirds. Huge machines were hastily erected and great beams of light shot out at us. Two of the planes were caught by the beams and crashed in flames, but the remainder climbed to a safe altitude and flew on. As we neared the great purple mists my pilot gave me an insulating suit to put on. Those purple mists you know are the main protection of the Thirds. Heretofore nothing had been able to come through them and live, but these women have found a way to protect themselves.

"The suit I put on, I saw, was a mesh of glass and rubber. The outside of the planes and everything in it were similarly protected. We passed through the mists safely and here we are!"

"I am glad you are here and not with the Thirds, for after tonight there won't be any Thirds." I said, trying to make him realize how extremely dangerous his position had been.

"Yes—yes—I know. It is terrible. Such scientific knowledge these great people have, and they use it to try to annihilate each other. Why, the Thirds have discovered that life is but——"

Anticipating a long scientific discourse, I interrupted. "Dad, you must come down to the eleventh tier and see what these women have done in the way of science."

I left him there, happy in his own environment, and hastened away to find Mavia.

### War

As I expected, she was in her office and I begged her to let me accompany her on the raid tonight. She firmly refused me but promised that I could use her viewing screen and see what was happening. While we were talking, a scout entered and made her report.

The Thirds, it seemed, had succeeded in getting into communication with the beings of the second dimension and thousands of them had come through and were inhabitating the purple mists, which had been expanded to completely cover the Third Evolutionists' domain.

"Oh damn!" said Mavia, or whatever its equivalent is in her language. "Just as we have found a way to insulate ourselves and our planes from the purple mists, they succeed in reaching those horrors of the second dimension. We know that they are unable to harm us except as we pass through the mists for they cannot live in this dimension outside of the mist. But how can we pass them safely?"

"May I suggest something?" I asked timidly.

"Yes, of course," Mavia snapped. "If you have a way of helping us, say so."

"By using my father's Hewitt Ray, I could set you and your whole army down in the center of the Thirds. The people of the second dimension could not harm you as you go through the mists because while you are passing them, there will be nothing for them to harm except a ray which they will not even know is passing."

"H'm. That might do, and once we gain an entrance, we will make very short work of the Thirds. But young woman, have you considered that after we have finished with the Thirds we will be practically stranded? There we will be, completely surrounded by the mist and unable to pass it to get home!"

I smiled in triumph. "Mavia, if you take me with you I promise to bring you back, safely, through the mists."

Mavia grinned. "You certainly are a determined young woman, are you not? Very well! You have earned your place in our ranks and you may go with us tonight."

The next few hours were very busy ones for me. Following my instructions, Mavia ordered an extra Hewitt Ray machine to be built, which the scientists, with Dad's help, erected in short order. I was given an insulating suit to put on.

"It will protect you from the rays of the Thirds but, may your deity, whoever he is, help you if you come in contact with the Second Dimensioners."

"What terrible weapon do they use?" I asked.

"That is just it," answered one of the scouts who was putting on her own insulating suit. "We do not know. They are great obnoxious-looking, winged creatures. Nature herself seems to have equipped them with a defensive weapon. Their bodies emit sparks that annihilate all they touch. We have never been able to insulate ourselves against them. For some reason the electrically-charged purple mists seem to be the only place in which they can live in this dimension."

Finally all was in readiness. The two Hewitt Ray machines were brought up to the mountain top and Dad was detailed to operate the one which was to send us forth. Imagine, if you can, the scene. Dad at one end of the mountain top with his Hewitt Ray machine, the other Hewitt Ray machine in the center, a guard of fifty

women surrounding it, whose sole duty was to protect it from the rays of the Thirds. Spread out in close formation were the soldier women, not only of our own city but of the other seventy-eight cities as well. Column after column of glittering, armored women . . . .

Mavia, at whose side I was stationed, gave the signal and—one second we were on the mountain top—the next we were inside the surrounding circle of the purple mists!

Then hell broke loose! Our women began to spread out fanwise, sowing destruction in their wake. The hive-like houses in our immediate vicinity, at the touch of the destructive rays, wielded by our soldiers, crumbled up and disappeared in a puff of smoke. The Thirds in the outlying houses quickly retreated and erected their enormous machines which shot forth beams of light. Their beams had a greater focus than our ray guns but our women in their insulating suits suffered no great damage. A few here and there whose suits, I suppose, were defective, stiffened out and fell to the ground. It was noticeable that the beams of light, shot out by the retreating Thirds acted differently from our rays. Their beams seemed only to strike their victims dead but our rays consumed them entirely.

I looked back to see if any harm had come to the Hewitt Ray machine. The fifty women surrounding it were directing great beams of light in all directions, forming a light barrier, which I later learned was able to stop and deflect any destructive beam which might be directed towards the machine.

### A Souvenir

IT was all highly exciting, but so entirely different from the bloody carnage that we of our world expect in battle, that it seemed like some great pageant in which I was taking part.

I marched with the rest of the soldiers and directed my ray gun on the Thirds and their houses. They were such inhuman-looking creatures with their thin machine-like bodies and great globular heads, that when they crumbled and disappeared as my ray touched them, I felt no revulsion as I might have had they been more human-looking. Instead, I cheered wildly at each victory.

We marched fanwise as I said, clear to the edge of the purple mists, leaving not a living thing in our paths, except the unfortunate women who had fallen under the beams of the Thirds. Reaching the mist, we directed our ray guns into it, trying to get some of the great creatures inhabiting it.

Now that we were so close to the mist, we could see them plainly, great bodies, with bat-like wings and tiny heads. Their red fiery eyes seemed to occupy the greater part of the small heads. They grimaced and gestured horribly at us and threw out sparks from their bodies.

We retreated to a safe distance and yelled our defiance at them. Tiring of this sport, the victorious army of women returned, singing and shouting, to the Hewitt Ray machine with its guard still surrounding it.

It was my duty now to operate the ray machine and I had no intention of being left behind. I set the automatic controls as Dad had shown me, then stepped in front into my place.

Nothing happened! There was no amber-colored ray to transport us back to safety! For a few moments the morale of the army seemed to be lost. Were we doomed to stay here surrounded by the horrid creatures of the purple mists?

Helplessly the leaders turned to me and I could only bid them wait, explaining that the automatic controls had not yet taken effect, and I advised them all to keep their places.

Suddenly the softly glowing ray shot forth and we all began a sigh of relief which ended on our own mountain top! We had won through. The purple mists were cheated of their prey!

Dad, who had been anxiously watching the battle through Mavia's viewing screen, hurried to greet us on our return.

"Lucile, I did not know you were such a blood-thirsty savage. Why, I watched you through the television and you certainly did your share of destruction and seemed to be enjoying yourself immensely!"

"Well, Dad, if you will go adventuring off into strange worlds you cannot blame your daughter if she follows in your footsteps."

"Just the same," he said, his eyes twinkling in their old familiar manner. "I think we had better go home before you can find any more trouble to get into."

"Yes." I admitted. "I have only three weeks' leave and I must get a little rest before I go back to work."

While Dad readjusted the Hewitt Ray to take us back I sent for Joburza, my prisoner, and introduced him to Dad. I told him of the trial and its results. Dad laughed and said:

"Well! Well! I suppose, Lucile, it is only natural that you should take back a souvenir. I never heard of a woman yet, who did not want to take back some kind of a souvenir from her travels. I suppose I should be thankful you did not collect a whole cart-load of such souvenirs."

"Of course you should," I agreed cheerfully.

Amid the friendliest "goodbyes" from our strange friends and with their hearty invitation to return some day ringing in our ears, Dad and I and our prisoner passed through the ray and after a few seconds found ourselves in Dad's laboratory.

"Wake up," I cried, shaking Marion, who had fallen asleep before the light-wave machine. "We are home!"

Tired as we were, there was no thought of sleep that night. Marion demanded to be told every little bit of our adventures. It took almost all night to completely tell the tale and explain all about the strange things we had found in the other dimension. Marion declared herself to be a member of the party, on the next trip. She was much interested in the women of the fourth dimension.

"I always thought we were emancipated," she said, "but this Mavia and her crowd are emancipated-plus."

While we were eating a very early breakfast I asked Dad: "How was it, Dad, that you and I landed in different places? You landed in the country of the Thirds while I landed with the savage Firsts."

Dad explained. "Due to the curvature of space we did not travel in a straight line. You took off, to use your aerial language, at a different time than I did and consequently landed at the other side of the circle. Understand?"

"Ye-s-s, I think I do." I replied hesitatingly.

Joburza, whom I promptly re-christened John, fitted himself easily into our life. He learned our language quickly but spoke it with a curiously quaint accent. Dad, discovering that he had an aptitude for science, readily took him into his laboratory as a pupil-assistant.

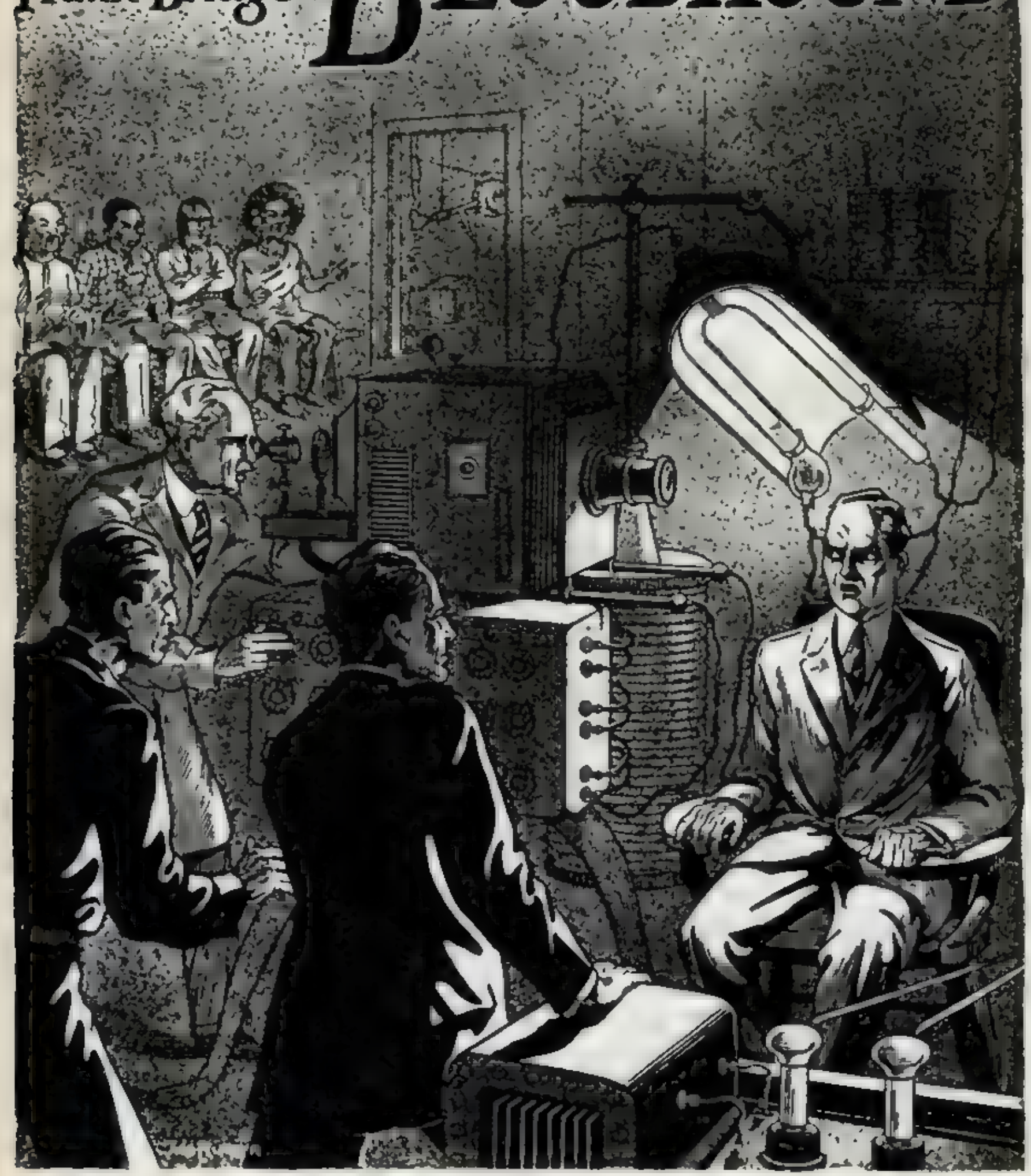
"My son was a daughter, so I have adopted this boy," he explained laughingly to his friends.

I liked John very much but he exasperated me by his air of timidity with women. Poor boy, with his back-

(*Continued on Page 420*)

# The MECHANICAL BLOODHOUND

By Frank Bridge



(Illustration by Roger)

He took his place at the scentoscope and trained it on the tube. Then he looked through the binocular eyepiece.

"GOOD morning, Professor Diel—how's the olfactory eye, or the optical nose, or whatever you call it, coming along?"

At these words the savant glanced up from a beaker.

"Oh! Good morning, boys, good morning! Why—the scentoscope is coming along tolerably fair, thank you!" He nodded pleasantly to Becker and me. My young friend indicated me with a wave of his hand.

"You remember Bridge, don't you, Professor? He's the chap who sent the story of your penetrating ray to that eastern publishing company."

"Certainly I recall Mr. Bridge," responded the scientist, and motioned us to be seated in a couple of strong chairs before the long table at which he was employed. Soon he set aside the beaker and advanced toward us, drawing up a third chair, into which he dropped wearily.

"It's this way, Professor," commenced Becker in answer to our host's inquiring glance, "I've been trying to give Bridge here the rudiments of this scentoscope you're working on, but I don't seem to have succeeded very well. Suppose *you* give him the intimate dirt."

The grey-haired sage smiled as he turned to me.

"Doesn't modern youth have odd expressions of speech, Mr. Bridge? Fancy my handing you *dirt!*"

"You seem to regard me as an old-timer, Professor," I grinned back, "despite the fact that I'm no older than Ned here."

"Yes, well — somehow you *are* an old-timer, even if you are young. But I suppose you're wondering what this scentoscope business is all about?"

I confessed to my curiosity.

FRANK BRIDGE

**WE are accustomed to think of our noses as the only means of detecting a scent or odor; but in truth our organ of smell is only a rather poor instrument that nature has given us. We humans, especially, have not a very sensitive means to determine smell. In fact, the lower animals are greatly superior to us in this respect. Many experimenters have worked on the question of finding a substance which is automatically sensitive to odors, and by which the differences of various odors can be detected. If such a thing were to be found, it would be like a mechanical bloodhound. In other words, it could be used to easily trace criminals by their characteristic odor, a thing which they cannot disguise. How such an instrument could be used in an actual case our author shows in a very fascinating story.**

"Well, briefly, it's this: my recent lectures at the university have had to do with scent; and since I had nothing better to do during my spare hours here at my cottage, I undertook a few researches of my own on the subject.

"Starting with the assumption of some scientists that scent is the result of an etheric vibration akin to electricity and light, I set about to investigate this theory; for in my own opinion scent needed a gaseous source in every case. First off, I went down to Calhoun—ever been there?—the smelliest town in the country. What with stockyards, packing houses, tanneries, fertilizer factories, chemical works, soap factories, glue-factories, tar-product plants, and a garbage-dump of prodigious extent, you can readily see that Calhoun is an ideal place to conduct a study of the science of smell.

"My presumption that smell cannot exist except as the result of a gas is borne out by the fact that wind will deflect a scent toward that direction in which the wind moves. You are, of course, familiar with the fact that varying atmospheric conditions create correspondingly different conditions in the intensity and other qualities of an odor. Hence it is quite apparent that a gaseous element is essential to the existence of an odor.

### The Professor's Theory

"THAT brought me down to two possibilities. The question to be decided was: is scent a vibration in a gas, like sound, or is it a stream of gaseous particles ejected from the odorous object? If the former, evidently the frequencies of the vibrations were either above 20,000 per second, or below 16 per second, because obviously odors are imperceptible to our ears.* Furthermore some animals, that apparently have a greater range of sounds that can be interpreted by their ears, employ their noses for the purpose of determining odors. So that cut out the former hypothesis and left only the idea that an odor is of gaseous constitution.

"Several cases tend to corroborate this theory. First, the nose, the principal purpose of which is to supply one's lungs with oxygen to support life, is the organ which detects odor. Secondly, scent is so easily directed by the passage of a moving gas that its own gaseous source is clearly indicated. Thirdly, holding one's breath quite effectually stops all sensation of smell, which would not be the case if scent were some sort of vibration affecting a delicate membrane in the nose. And finally, by way of experiment, I placed several decaying fruits in a glass vessel which I then evacuated of all air. If the highly offensive odor which the fruits emitted were gaseous in constitution, I told myself, the gas would gradually fill the glass vessel. So I heated the bottom of the jar in order to make the gas float upward, and cooled the top to make the gas condense on its inner surface; and sure enough, in a little while a very thin film was apparent all over the under side of the jar's lid, showing that some form of vapor had condensed there.

"Now here is where the scentoscope comes in. I haven't fully perfected the instrument yet, but, briefly, its purpose is to determine the different scents given off

* 16-20,000 vibrations of the air per second represents the range within which our ears detect sound.

by different substances, plants, and animals. Because the human nose is not sensitive enough, some method must be found that will enable us to determine scent by other means—by an optical means, preferably. Of course, the spectroscope* showed the odorous vapor in the glass jar to be composed of the atmospheric gases with a very high carbon content, and evidently in some unusual form of atomic or molecular structure. Now the scentoscope is a sort of combination between the spectroscope, the Michelson interferometer,* and the fluoroscope."

While he was speaking, the professor had brought a camera-like apparatus from one corner of the laboratory. In the front was a two-inch lens, with a small lamp mounted over it, facing outward, and a binocular eyepiece was in the back of the box. Several dials were on each side of the cube, and the whole device was mounted on a tripod.

### What the Machine Revealed

"THIS is an ordinary mercury-arc lamp," explained the professor, indicating the small projector above the lens, "generating ultra-violet rays which illuminate the space before the scentoscope. I use ultra-violet rays, of course, because they can be intercepted by air molecules and therefore can show a moving vapor—which is the odor to be analyzed. The lens is crystalline quartz. Behind the lens, inside this box, is a quartz plate treated with a fluorescent liquid which glows violet upon impact of the ultra-violet rays. Now, due to the difference in molecular structure between ordinary air and any form of odorous gas, there is a difference in the color or the shade of the ultra-violet rays reflected or refracted by the two gases. This makes the odorous gas visible on the quartz plate.

"In order to facilitate study of the latter I have a rather complicated interferometer behind the quartz plate which cuts out the shade or color reflected by the air molecules, thereby leaving only that particular shade of light which is reflected by the scent-particles.

"Behind this is a quartz prism as in a spectroscope, which enables me to determine the chemical constitution of the odorous gas. It is this last feature that still needs developing, for I wish to improve it so that I can tell whether an odor belongs to a horse or a dog or a man, even though I do not see the animal. If it is man, for instance, I also hope to determine the race and sex—whether white, yellow, black, red, or brown; male or female; and—yes, perhaps even the approximate age! That, Mr. Bridge, is the scent detector, or the optical nose, that Ned has been speaking of."

Of course, my curiosity prompted me to peer through the instrument, but beyond seeing the laboratory wall with its rows of jars and test-tubes through a slightly violet-tinged aperture, the experience netted me nothing.

"How is it adjusted, Professor?" I inquired.

The savant advanced, took my place at the eyepiece of the scentoscope, and trained it on a beaker in which he then poured a chemical solution with a most unpleasant odor. Then he snapped on the arc-lamp above the lens of the scentoscope, and looked through the binocular eyepiece. When he had properly focused it he motioned me to the instrument.

As I looked through it, I saw a black pedestal upon which stood a black beaker, and from the top of this receptacle rose a wavering line of indigo vapor, while all around it was a field of fairest violet.

"The vapor, Professor, is the stench from that beaker, eh?"

"Absolutely, Mr. Bridge!"

Becker took the instrument after me, and when he had finished with it, the scientist again placed his eyes to the binoculars. This time he slowly turned the first of the dials on both sides of the apparatus, and finally looked up once more.

I assumed the eyepiece again, to be greeted with the same sight as before, except that four vertical black lines traversed the violet field at regular intervals of about one inch each.

"Those are interference-bands," I heard the sage remark, referring to the vertical stripes upon which I gazed, "formed by the first of four pairs of mirrors within the scentoscope. The bands are made by altering the distance between the mirrors, as in the Michelson interferometer."

After Becker had had his look the professor manipulated the second set of dials, and this time as I employed the instrument I counted twenty interference-fringes running vertically through the violet field. The violet bars were of about the same width as the black ones, and, if I recall aright, were twenty-two in number.

As before, Becker followed me to the scentoscope, and then the instrument's inventor twisted the third pair of dials. And my vision as I took my place at the eyepiece, was greeted now with a black field broken only by four violet bars and the wavering indigo wisp of scent. Evidently the interference of the violet rays had been so developed that almost complete darkness took their place. And by the time the fourth set of mirrors had been arranged by the professor, only the indigo vapor curled and floated upward in a field of black velvet.

Now the professor shoved in a prism that had been protruding from one side of the scentoscope, and as I again looked into the instrument I saw a series of fine vertical black bands traversing an indigo field of varying shade. These, however, I knew to be spectral lines instead of interference-bars, but being unfamiliar with ultra-violet spectroscopy I was unable to identify the elements which they represented. The professor observed, however, that the vapor was composed of oxygen, carbon, and hydrogen.

Of course, I expressed my interest and enthusiasm, congratulated the professor upon the success thus far attained, and tendered my best wishes for an early and completely successful termination of his investigations. Then, after chatting with the scientist for a while, Becker and I took our departure.

### A Strange Case

A WEEK later I once more entered the laboratory. "Hello, Bridge," greeted Becker, while the scientist nodded to me and called a cheery "Good afternoon!"

"Professor," I began as I seated myself in the chair that Becker proffered, "could I enlist your aid for the sake of a friend of mine? You remember Jack Barton, don't you, Ned?" I asked, turning to Becker. He nodded.

"Well," I continued, "for the past week he's been getting all manner of threatening 'phone calls from some man whom he can't place, demanding that he get out of town before the seventeenth of this month, if

* An instrument for analyzing light waves.
* An instrument for analyzing the spectra of incandescent gases.

he doesn't want something unpleasant to happen. As I recall, Jack got the first call seven days ago—on the sixth—and this man, whoever he is, told him to beat it before ten days had passed. The next day this chap cut it down to nine days; the day following to eight days; and so on till today he gave Barton just three days' time to clear out or have something terrible happen to him.

"First Jack passed it off as a joke of some sort; but this afternoon he was nearly hit by a big brick that came down from the roof of his office building as he went out to lunch; and later in the afternoon he got his daily call from the stranger. Today the fellow also stated that next time it wouldn't be a brick and, furthermore, next time he wouldn't miss.

"Well, Jack had the call traced to a pay-station at the Arcade. I've just come from there—trying to find something, you know—but it was useless. So I wonder if you couldn't sweep around a bit tomorrow afternoon between three-thirty and four—that's when the calls usually come in—with your Cosmic Ray apparatus and try to spot the enterprising individual who's behind this brick-hurling racket."

Professor Diel rubbed his chin in silence. Then he slowly shook his head. "I'm afraid it won't work, my young friend. The instrument is built against the west wall of the laboratory, and so it has a very narrow range of action. Besides, even if we could employ the beam in an easterly direction, we have no means of knowing which person is phoning to your friend from among the scores we would find in booths. My instrument doesn't carry sound, you know."

I heard Becker swear softly as he realized the truth of the savant's statement.

"Have you any conception of this mysterious person's motive in threatening Mr. Barton in this manner?" the professor asked me.

"Well, I'm no detective," I responded, "but it doesn't take much imagination to supply a possible motive. Barton is engaged to Alice Smedley—remember her, Ned?"

"Sure," grinned Becker, "Old flame of yours, isn't she?"

I smiled as I shook my head. "No. Been in love only twice. First one was Ethel Kent—you don't know her—and the second one I won't mention. Lost 'em both, so now I'm a confirmed woman hater."

"But this—" prompted the professor, referring to the cause of my visit.

"Oh!" I resumed, "Well, the wedding is to take place on the seventeenth—the day on which Barton is supposed to be absent if he wishes to avoid unpleasant consequences. So you see, there's nothing so mysterious about it. Just the case of a jilted rival who intends to let no one else have Miss Smedley if he can't. I've spoken to her on the matter, but since there were several beaux, old and young, who were disappointed, she can't shed any light on the subject, either."

"Do you think you can bring Mr. Barton and his brick over here, Mr. Bridge?" demanded the professor.

"Sure!"

"Then do so at the earliest possible moment. And caution him to tell the police nothing. If they get that brick into their hands all our evidence is gone!"

Ten minutes later I ushered Barton and the brick into the professor's laboratory. After the introductions, Barton briefly related the story of the 'phone calls and the incident of the brick. So far he had said nothing to the police.

When Barton had finished, the professor placed the brick on a pedestal, and somewhat to my curiosity brought out the scentoscope and a camera. The former he trained on the brick and rapidly commenced his elimination of violet light.

"The scentoscope has at last been perfected, Mr. Bridge," he announced, "By replacing that original prism by another one of somewhat more complex shape, I have at last been able to determine the makers of various scents. In my experiments I have used Becker, a Chinaman, a Negro, an Indian, and a Polynesian; I have used both men and women, and in each case the particular odor emitted by the subject was somewhat different from that of the preceding individual. In short, it is possible to determine not only species, but also race, sex, and *individual* by the scentoscope; and further—it is even possible to discover the individual's approximate age, as well as the approximate age of the odor clinging to any object handled by him!"

### The Man Discovered

BARTON and I gaped.

"Two sets of odor emanations are quite apparent," the professor mused as he looked into the scentoscope. Then, turning away from it, he permitted the rest of us to look. Again all I saw was a compact series of fine black lines set against a pale indigo background. But evidently this new prism merely revealed the molecular structure of the odorous gas clinging to the brick, while a regular spectroscopic prism showed its chemical constitution.

When we had all had our chance, the professor took several photographs of the odor emanation lines while Becker and I explained the instrument and its purpose to our exceedingly interested friend.

"Now, Mr. Barton, will you kindly sit down in that chair and permit me to photograph the particular odor emanation which is your own? I need it in order to determine which of those lines we just saw belong to the person who has been threatening you lately."

Barton complied, and fifteen minutes later we three youngsters departed, leaving Professor Diel to develop his photographs.

The next afternoon found the professor, Becker, and myself in a seldom-used telephone-booth at the outskirts of the town, whither Barton had traced the day's threat, and here the scientist took several pictures of the booth and the 'phone through the scentoscope. With these we returned to the laboratory.

"Suppose you boys dig up Barton and have dinner with me tonight?" suggested the professor as we left him at his cottage, "I think that after seven o'clock I'll be able to tell a little about Barton's annoyer. We dine at seven," he concluded, and turned into his dwelling.

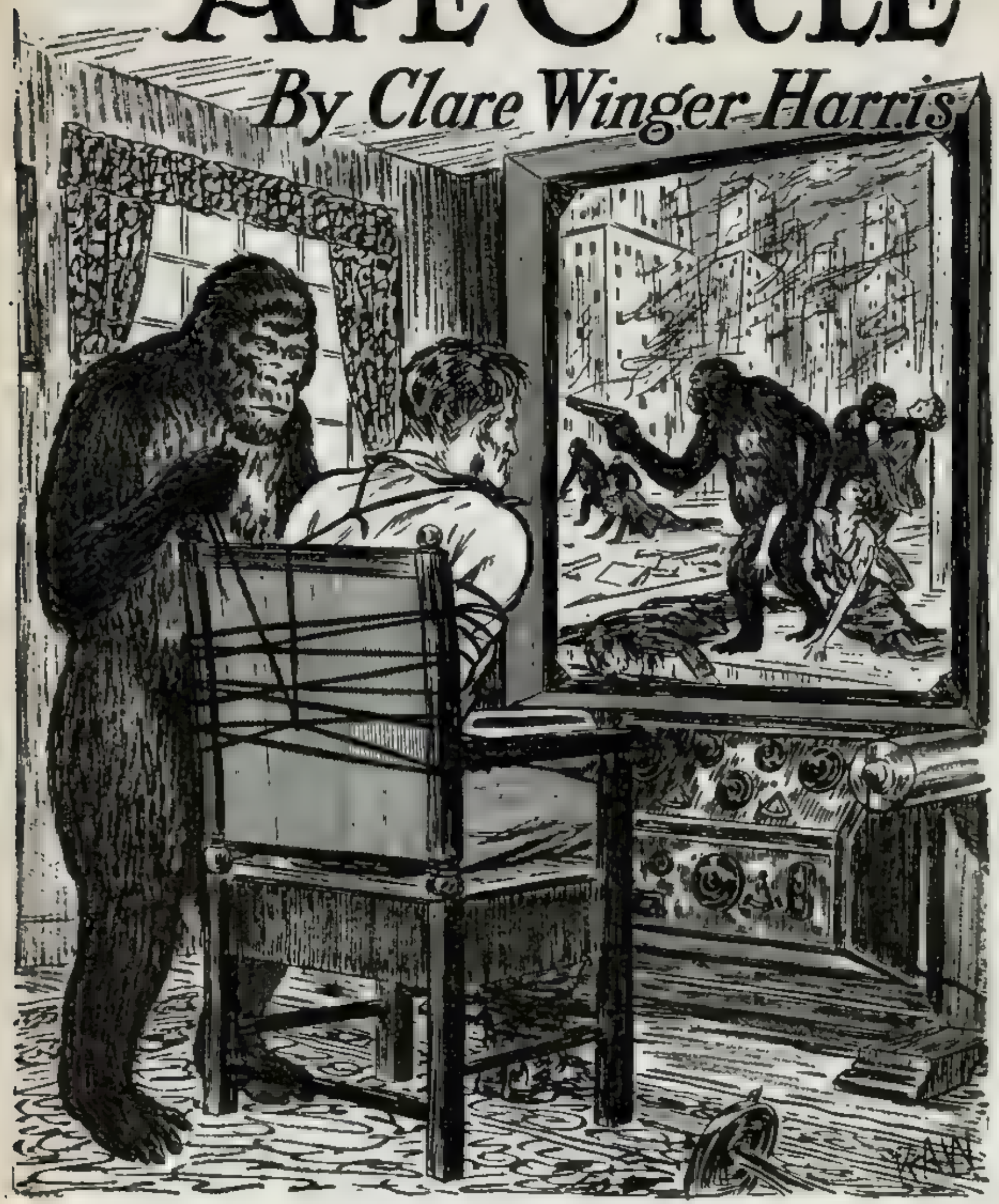
Accepting his invitation, we three young men found ourselves in his cottage at the designated time, and after dinner he gave us his results.

"The strongest odor emanation lines in the photographs taken at the booth," he commenced, "agree perfectly with those left on the brick after I had eliminated those of Mr. Barton. The possessor of this particular odor is a white man of middle age, possibly somewhat corpulent, and is employed in the office of a camphor factory. He uses Palmolive shaving cream, Mennen's talcum powder, and is a careful dresser. He wears kid gloves, perfumes himself rather more than necessary, and wears a carnation in his coat-lapel. Do you know anyone with these general features who once paid court to Miss Smedley, Mr. Barton?"

(*Continued on Page* 421)

# The APE CYCLE

## By Clare Winger Harris



(Illustration by Winter)

Only by closing his eyes could Wilhoit Stoddart shut out the distressing scenes pictured before him on the screen. He found his attention drawn irresistibly . . . .

# THE APE CYCLE

**By the author of "The Artificial Man" etc.**

ON the afternoon of January 18, 1930, a train on a branch line of a well-known railroad slowed down and stopped at a station in the northwestern corner of the State of Illinois. Only two passengers alighted from the train, but they were possessed of individuality unusual enough to arouse the curiosity of the most indifferent inhabitant of this typical middle-western town. The man was clad in leather trappings, and most of his paraphernalia was strapped to his back. His face, though lined as if from continued exposure to the elements, was that of a man in his middle thirties. His eyes and forehead belied his general appearance, and were characteristic rather of the scholar and dreamer than of the rugged adventurer. The other individual was a little boy about nine years of age. He was a miniature counterpart of the man, and it was apparent they were father and son.

Presently part of the boy's bundle which was fastened to his back began to move violently, as if in an effort to extricate itself, at which the child exclaimed:

"Father, Adam is trying to get away. How soon shall we be home?"

"It is not long, son, before we'll be able to let Adam and Eve down, but they will have to be caged temporarily. Later they can have the run of the place, as you shall see."

The child smiled up into his father's face and said, "It won't be long before they'll be earning their salt, and won't folks be surprised?"

Over the man's face there passed a troubled shadow.

"I'm afraid it will be a long time before folks will be surprised," he replied gravely. Then his face brightened with a strange vivacity, and he added, "but when they do wake up to the realization of what we've done, the word 'surprised' will be much too tame to describe it. I tell you, Ray, it'll be the greatest thing the world's ever known."

That night, safely ensconced in the small farmhouse that snuggled amid a grove of sentinel-like poplars on the center of his large estate, Daniel Stoddart, having satisfactorily and comfortably arranged Ray and Adam and Eve for the night, sat before the log fire in his great living-room and dreamed of the future—and the past.

The fire died down several times and had to be replenished, but still Daniel Stoddart dreamed on, living in retrospection the early years of his married life with his beautiful wife, Stella. She had come from a family of professional men and was not accustomed to the work necessary for the upkeep of a typical Illinois farm. But she had done very well in spite of financial reverses and her naturally poor health.

CLARE WINGER HARRIS

**ALTHOUGH man has made great strides in emancipating himself from the drudgery of earning his sustenance, he is still heavily chained to the bondage of labor. He has devised many ways to gain more leisure for the development of his inner faculties. Our mechanical civilization has added enormously to our possibilities for leisure and has also, as a consequence, enriched the human race greatly in giving to every laborer a larger share of wealth in return for his services than has heretofore been possible. But it is recognized by many that the possibilities in the mechanical civilization are limited. In other words, there are still many tasks which will always have to be performed by sentient beings.**

**Experiments with the lower forms of life, such as the horse, the dog, etc., have been uniformly successful in doing part of man's labor. But a more intelligent being is undoubtedly necessary. Such a being is found in the ape—the form of life most nearly resembling man. Mrs. Harris takes this idea for her theme and develops from it a remarkable story of the attempt of man to emancipate himself from labor through the assistance of his ape brother.**

Conditions were hopeful, even promising, until Ray's birth, from which Stella was never able to recuperate. Hired help had proved undependable and unsatisfactory, and it seemed that in sheer desperation at her own helplessness, the fair woman, who was apparently born for better things, died, leaving with her husband the baby boy one and a half years old.

During the next five years Daniel had managed his farm with whatever futile, itinerant help he could get from time to time. It was during those years of apparently fruitless toil that the great idea found a permanent lodging place in his brain. It was born of a belief that to men and women rightly belong freedom from eternal toil. And when the idea had grown in his mind, he determined to devote his life to its fulfillment.

One evening six years ago he had sat alone before his fire just as he was now. Ray was in bed, the papers read. At a loss as to how to pass the remainder of a lonely evening, Daniel had sauntered over to his well-filled book-case and idly scanned the titles of the volumes therein. Absent-mindedly he picked one up, opened it and glanced casually at the page before him. What he read arrested his attention, and he turned the book over and glanced at the title. It was the great work on the ancient Egyptians by Sir Gardner Wilkinson. Daniel turned again to the page that had originally attracted his attention and read the following: "Monkeys appear to have been trained to assist in gathering fruit, and the Egyptians represent them in sculptures handing down figs from the trees to the gardeners below. . . . Many animals were tamed in Egypt for various purposes—and in the Jimma country which lies to the south of Abyssinia, monkeys are still taught several useful accomplish-

ments. Among them is that of officiating as torch-bearers at a supper party; and seated in a row, on a raised bench, they hold the lights until the departure of the guests, patiently awaiting their own repast as a reward for their services. Sometimes a refractory subject fails in his accustomed duty, and the harmony of the party is for the moment disturbed, particularly if the unruly monkey throws his lighted torch into the midst of the unsuspecting guests. But the stick and deprivation of food is the punishment of the offender; and it is by these persuasive arguments alone that the simians are prevailed upon to perform so delicate an office."

### A Great Dream

FOR the remainder of the night Daniel Stoddart sat before the fire. Through his mind flashed image after image of a world wherein mankind was forever freed from the bondage of labor. True, men have had such visions since the beginning of civilization. The enslavement of the blacks had been such an attempt to free the white man from the drudgeries of existence, yet at what a fearful price! There must be another way, Stoddart thought.

He saw how the age of machines was promising man surcease from many types of work that have always kept millions in drudgery. But there must be something more, he thought, as he sat there in the firelight.

"Machines can never do it alone," he had exclaimed. "There will always have to be men to tend machines, and do many other menial tasks. But with the careful breeding and training of these primates it would be different. Since time immemorial lesser animals have labored for men, and if treated kindly, how better can they justify their existence and help man in attaining the high goal for which he is ultimately destined? The horse, the ox, the camel, the elephant, the dog and other animals less intelligent have all contributed toward man's emancipation from the eternal problem of working for his sustenance. Why not the ape—who most closely resembles man? His irresistible tendency to 'ape' man could be turned into useful channels. Slave labor was quite satisfactory until man became awakened to the moral wrong. But here we will deal with monkeys, apes, baboons and all of that branch of primates that are *not* human, and the moral objection that rightly abolished human slavery, could not be raised."

The result of that night's thoughts was that Daniel packed up his belongings, closed the house and with little Ray, then a lad of six, departed for the near East. And it so happened that the two and a friend, Job Wilhoit, an English business man of means, found themselves in the vicinity of the Red Sea.

"It is here," Job told Daniel, "that many of the aromatic shrubs from which we get our spices and medicinal herbs are grown."

Along the rivers and in the ravines, recesses, and glens, the shrubs Wilhoit sought were growing in abundance. Stoddart was looking for something else. The shrubs were difficult of access and the men wondered how the Indians succeeded in gathering their product for the market. Of course East Indians are nimble, but the two adventurers knew it would require most unusual agility to harvest the crops from some of the taller trees, for their thickly-growing branches were extremely difficult to handle. The natives were particularly secretive about their methods of operation, and would never allow the assistance of white labor.

But one day as the men were topping a hill they looked into the narrow valley below and paused in astonishment at the strange sight that greeted their eyes.

A few natives were walking amid the shrubs and underbrush, shouting strange words in their own tongue. This was followed by unusual commotion in the tree-tops, and turning their attention thither, the white men saw hundreds of monkeys picking the fruit and throwing it to their masters below. The work was done so quickly and efficiently that our friends became fascinated by it and it was dusk before they realized it.

Dan and Job remained in the vicinity of the working monkeys for several days, subsisting upon herbs and roots, the while they watched with growing amazement the startling intelligence displayed by the apes. Often they were greatly amused at some of the antics performed by the little beasts. Dan remembered particularly one mischievous monkey who invariably sought the top of the trees and always saw to it that his plucked fruit never failed to strike the head of a fellow-worker on its way to the ground.

Daniel became more and more enthusiastic over the future possibilities of ape-slavery and divulged his dream to Wilhoit. But his ardor was not shared by Job, who maintained that an innate treachery would prevent these animals from becoming servants in a civilized country. However he could not prevail upon Daniel Stoddart to give up his dream of emancipating man from life's drudgeries through the agency of the ape.

Stoddart, Ray, and Wilhoit remained in the Orient for nearly two years. When they finally sailed away they had with them in cages, six splendid, intelligent, specimens of monkeys. For a year Daniel and little Ray were guests at the elder Wilhoit's estate in Wiltshire, England, where the two young men undertook the initial steps necessary for the realization of their hopes. The result was the breeding of some very intelligent simians whose aptitude was nothing short of amazing.

It had been agreed between Wilhoit and Stoddart that if it became necessary to replenish the supply of suitable beasts from time to time, the former with his ample resources would return to Asia for additional animals which he would ship to his friend in America.

So the two Stoddarts now home again had with them two monkeys, a male and female, whom Daniel destined to be the Adam and Eve of a future race of servant-slaves. They were to make man's existence upon earth a paradise by relieving him of the distasteful duties that have always kept him in bondage.

Daniel was surprised to learn just before his second trip to the east that Job had married and taken his bride with him. And prior to the third and last trip of Job Wilhoit, the Stoddarts received the announcement of the birth of a baby girl. Young Wilhoit, however, never returned to his wife and daughter. What had been his fate none knew. The

last that had ever been heard of him was when he set out from Kabinda in West Africa for an ape-hunting expedition into the interior.

With the coming of dawn, Daniel Stoddart rose from his chair and greeted the day with words of determination, "I will devote myself to the breeding and training of simians; each type for a specific kind of work best adapted to the animal's size and type of intelligence. I have in mind the ultimate development of *the perfect monkey servant.*"

## CHAPTER II

### The New Servants

EMERSON has said, "Everything is impossible until we see success." That the two Stoddarts had accomplished the well-nigh impossible, there seemed to be no question. The proofs of the success of their venture during the ensuing twelve years were confined to their Illinois farm. But with the rapid approach to its borders of suburban homes, Daniel and Ray determined to seek some more isolated territory where they could stave off the encroachment of civilization until they were ready to divulge their secret.

One day the two stood on their front veranda and heard in the distance the sound of steam-shovels at work on a highway to go past their land.

"With your education completed at the University of Illinois," said the older man, "it is time for us to continue our work elsewhere. We must be away from the prying eyes of neighbors."

"But father," protested Ray, "hasn't the time come for us to prove the merit of our 'unusual products', and to market our monkeys throughout the country?"

Daniel Stoddart placed a hand upon his son's broad shoulder.

"My boy," he said sadly, "I fear I am not destined to see that time. You know the old saying, 'Rome was not built in a day'. It requires infinite patience to accomplish visible and tangible results in the field of evolution. You will see in your day the beginning of man's emancipation, but even for you and your children the *great* day will not dawn. You and I will pass on cognizant of the fact that we have but laid the foundation for the great superstructure of humanity's freedom."

The two men gazed across the broad fertile acres of the Stoddart farm which were secluded from the outside by an arboreal wall of closely-planted poplars. Everywhere was visible evidence of the scientific care necessary for a perfect coöperation with natural law. Yes, the two Stoddarts had prospered during the years since their return home on that wintry day in 1930.

The sound of a lawn-mower approaching from the side of the house drew the attention of the two men. It was being operated and guided by a gorilla, a travesty on the human form. The animal plodded along remarkably erect, and with its prodigious strength handled the lawn-mover as easily as if it were a toy, guiding it with careful precision. At sight of the two men on the porch, it bared its teeth in what might be interpreted as a smile of recognition, though it was not returned by the two masters.

"Beta is almost worth his weight in gold," remarked the younger Stoddart as the huge ape disappeared around the side of the house on the return swath. "Not only does he perform his own duties well, but he is showing marked ability in superintending the work of others. A few more overseers of his and Alpha's ability, and you and I could retire and be mere figure-heads."

"Scarcely that," replied the older man with a smile, "I can not imagine a day when the brain of man will not continue to be the prime factor in all human accomplishment."

"Man's brain started the ball rolling," commented his son, "but the momentum will carry it on."

"A sort of perpetual motion, eh?" queried the other. "I declare, son, your enthusiasm exceeds my own."

A baboon appeared, dragging a hose toward the porch. At the foot of the steps it deposited its burden, quickly ascended the steps and commenced carrying the porch furniture to one end. This done, it agilely descended, took up the hose, studied the nozzle for a minute as if slightly puzzled, then ran around to the hydrant and turned on the water. As it picked up the hose once more, its beady little eyes shifted ever so slyly to the two men standing on the steps. It brought the stream of water very close to its masters' feet, thought better of its mischievous inclination, passed the two and began to wash the dusty porch.

"Kappa will get too frisky for his own good some day," commented Ray.

Just at that moment a small monkey appeared in the doorway and chattered to attract attention.

"Go get the mail, Bedelia," ordered Daniel.

The simian came out of the house, cast an apparently disdainful glance in Kappa's direction, descended the stairs and proceeded at a loping gait down the walk. The two men turned to enter the house when a gurgling scream, followed immediately by an unusual chattering commotion, held them to the spot. Bedelia was being made the target for the water from the hose, wielded in the capable hands of Kappa, who jumped up and down in delight.

"Another case of atavism," remarked Daniel with an effort to suppress a smile. "Here you young rascal, drop that hose!"

### A Strange Silence

BEFORE either of the Stoddarts could enforce obedience from the recalcitrant Kappa, a huge paw reached up from below the porch railing, seized the hapless monkey, and gave the terror-stricken little animal such a blow that it fell to the ground.

"Hey there, Beta," cried Ray springing forward, "that's not the way to do! Do you hear? I will attend to Kappa. No, *no!*"

The gorilla blinked in amazement at Ray's outburst, then turned and retreated to the lawn-mower with injured pride apparent in every move. A puzzled scowl lowered the beetling brows beneath its receding forehead.

Bedelia took herself to the house in quest of a towel, and the two men bore the injured Kappa inside where they rendered first aid. But it was several days before the young baboon was able to perform his scheduled duties.

Daniel received the letter proffered to him by

Bedelia an hour later. It was dated from New York and ran as follows:

"Dear Mr. Stoddart:-

My daughter Melva and I arrived in America day before yesterday. We have been so busy enjoying the sights of this wonderful city that I have neglected writing you before of our intention to call upon you and your son at the 'monkey-farm', as Job has always termed it. Since my husband's disappearance my success with the few apes we had upon the estate has been miserable. Melva and I do not seem to employ the type of discipline necessary to hold the animals in subjection. We should like very much to be able to study your methods for a few days during our sojourn in your wonderful country.

Margaret E. Wilhoit."

Daniel turned the letter over to Ray in response to the latter's look of inquiry, and when he had finished it the father suggested, "Let us send a telegram to them to meet one of us in Chicago. It will be much easier for them than to have to find their way clear out here in the backwoods. Can you arrange to go, Ray? You can be spared for a little while. The twins born to Omega last Sunday will be the last arrivals for awhile. Then I'll keep a weather eye on Alpha and I'm sure things will run along smoothly."

It was with pleasant anticipation that Ray considered meeting the wife and daughter of his father's former friend. He recalled Job Wilhoit quite distinctly, though he had not seen him since he himself was a lad of nine. Wilhoit had been a younger man than Ray's father, and at the time he knew him, was married about seven years. Ray figured the daughter was not yet twenty.

The meeting was one of satisfaction for all. Both mother and daughter, while possessing characteristic English reserve, proved friendly and entertaining, and showed an intense interest in Ray's description of the development of monkey labor. Melva's short brown ringlets, ready smile, and sly humor might not at first seem characteristic of a serious young person, but Ray was not long in discovering that this charming little English girl had deeper sides to her nature.

The trip to the farm ended all too soon as far as the two young people were concerned, but Mrs. Wilhoit was thoroughly fatigued after the long trip west, and was desirous of resting for a few days.

"Strange father isn't at the station with the car," Ray exclaimed as they alighted and surveyed the platform. "He knew when to expect us. You ladies sit down and wait a moment. I'm going to use the phone."

He returned shortly with a troubled, preoccupied air, and it was some time before he spoke.

"I didn't get father on the phone."

"Maybe he was a considerable distance from the house," suggested Mrs. Wilhoit.

"No, the phone was answered by Alpha."

"And who is Alpha?" queried Melva. "What an odd name. It is the Greek letter for 'A'."

"Yes," replied Ray absentmindedly, "Alpha is A, and No. 1 in this case. He is our most intelligent ape. He oversees the running of our household week in, week out, with scarcely any interference from either father or myself. Routine and habit, of course, instilled into him by generations of highly specialized training. He is a large and important cog in this organization of ape labor. He almost speaks, but his articulation is very peculiar. Only father and I can understand him, but to do so is no more a stretch of imagination, I am sure, than that exercised by many a fond mother over the first efforts of her babbling offspring."

"How interesting," cried Melva. "How far you and your father have progressed in the realization of your dream! I don't think even my poor father quite realized its possibilities to such a vast extent."

"Your father was an explorer and adventurer, Melva," explained her mother. "He was not of a scientific turn of mind. Capturing apes was sufficient thrill for him, regardless of whether they or their descendants were destined to be eventually human or mere trained circus performers."

"'Eventually human!' Why mother, what a sacrilege!" exclaimed Melva, a frown puckering her pretty brow. "Of course they can't become human. They have no souls!"

"At just what point in the process of evolution does the soul appear?" asked Mrs. Wilhoit with a knowing side smile at Ray.

"Well, all I have to say," continued the apparently grieved Melva, "is that if they ever do become human we can't have them work for us any more. That would be slavery."

## CHAPTER III

### A Tragedy

RAY smiled gravely, but there was a twinkle in his eyes: "With the first appearance of a soul, Miss Wilhoit, we will pay them wages and they will be satisfied."

The taxi gave up its passengers outside the row of stately poplars.

"What ample protection these afford from prying eyes!" observed Mrs. Wilhoit as the three entered the grounds.

"Yes, our isolation has been all we could desire," answered the young man. "Of course, through the years it has leaked out that we have animals that we are training, but no one dreams that our ambitions soar beyond the confines of the circus ring."

As the three approached the house they saw Bedelia picking roses from the bushes at the side of the porch. The women watched her with intense interest. The simian's selection was perfect. She picked only those that were at the height of their beauty. Finally when her bouquet had assumed ample proportions she buried her ugly flat nose in it and nimbly climbed the steps and entered the open door.

"Will she know what to do with them?" questioned Melva.

"Wait and see," was Ray's response, but his mind was not on Bedelia. "Come and be seated, ladies, I'll get father."

The two seated themselves in the orderly and immaculately clean parlor. They surveyed with interest its furniture of excellent quality, but a generation old; ottomans, tidies on chair backs, and long ornate mirrors with wax flowers under glass domes.

"Maybe the monkeys like those things," whispered Melva with a suppressed giggle.

"Hush, child," reproved her mother, "these two

men have more to occupy their minds than to keep up with modern styles in house furnishings. Look at that quaint china representation of those three monkeys who with their paws over their eyes, ears and mouths, admonish the observer to see, hear and speak no evil."

A pattering of tiny feet drew the attention of both visitors to the door leading to the hallway. Bedelia was approaching, triumphantly bearing aloft her bouquet of roses in a vase of water. She set it gingerly upon a small table near Melva.

"Come here, little monkey," said Melva, holding out her hands invitingly. Bedelia hesitated, then slowly approached, her little eyes shifting continuously between the two strangers. To their utter surprise, she sprang upon Melva's lap and nestled close to her shoulder, occasionally watching her face to see whether her action met with approval. She pawed over the ruffles and trimming of Melva's dress and examined her beads minutely, then, amid the shrieks of laughter of the women, she took Melva's hat off her head and placed it upon her own, where it nearly touched her shoulders.

"If she has the fleas that our monkeys at home used to have, I advise you not to let her keep it on," laughed Mrs. Wilhoit.

A shadow fell athwart the gay scene in the parlor, and apprehensively mother and daughter raised their eyes. Standing in the doorway, its head nearly touching the lintel, stood the largest and ugliest ape upon which they had ever gazed. But, strange to say, its extreme unattractiveness resulted not so much from characteristic simian traits as from the fact that it just escaped being human in appearance. The slope from forehead to jaw was far less marked, the nose had a suggestion of a bridge and in the proportionally small eyes lay a look of amazing intelligence.

This "missing link", for so both women unconsciously termed him, was possessed of prodigious strength; for even through the clothes he wore they could see the play of great muscles on his arms and shoulders. From the massive trunk rose his thick hairy neck, a pillar of strength, supporting the head that paleontologists might have easily constructed from the skull of the famous Piltdown man discovered in England. The hands, long and hairy, moved with restless energy about the buttons of the coat.

If either of the two strangers in the house had been less accustomed to apes of all sizes and descriptions, they would probably have fainted on the spot; but though their experience had acquainted them with a diversity of types, never had they conceived of such a creature as stood before them now.

A guttural command evoked an immediate response from the little monkey, who slipped unobtrusively from Melva's lap and disappeared through the door. But the great bulk of the newcomer did not move. Instead, he was gazing fixedly at Melva, and there was that in his too-intelligent bestial face that struck terror to the hearts of both women. Melva felt cold chills running up and down her spine, and when she opened her mouth to scream, not a sound was forthcoming.

The great ape, perceiving the fright of the two in the parlor, walked slowly forward, and his facial expressions gave clear evidence of the development of certain small muscles that had been wholly atrophied in his ancestors a few generations back.

It was Mrs. Wilhoit who finally spoke, her voice husky with fright, "Ray,—Mr. Stoddart,—where are you?"

### Reflexed

THE gorilla-like creature ceased his stealthy advance at the sound of her voice and looked toward the hall and stairway. A faint rustling and the sound of rapidly approaching footsteps were welcome sounds to the visitors. In a moment Ray appeared, but a very changed man. His face was ashen, his manner thoroughly dejected. He entered the room as one walking in a nightmare, scarcely cognizant of the three occupants.

"Why, what has happened, Mr. Stoddart?" cried Melva running toward him.

He sank into a chair and stared for a moment with unseeing eyes; then, suddenly aware of his surroundings, he looked at the great gorilla.

"Alpha, what do you know about Dan?" he demanded imperiously.

"Dan gone," growled the beast in a queer throaty gutteral tongue.

"Is—is—your father—?" breathed Mrs. Wilhoit.

"Yes——dead," said the man in a toneless voice, "dead with no marks of violence upon him. It must have been his heart, but why——"

Melva had been watching Alpha covertly. The great beast shifted its eyes from one to another of the group.

"Will you send Alpha away?" whispered Melva.

"Prepare the vegetables for dinner," said Ray peremptorily. The animal shambled toward the kitchen.

"Do you know, I detest that brute!" Melva exclaimed after the kitchen door had closed on his huge bulk. "I think he is terrible—a travesty on humanity at its worst."

Ray thought a moment before he replied wearily: "What else can one expect? The end, however, justifies the means. The intelligence of that 'travesty' and others like him, will free mankind of drudgery. Though my father is dead, I am sure at the hands of one of these, I must carry on. Where monkeys are employed, the menial tasks of men and women are performed with scarcely any supervision. Think what it means for us to be free to turn our attentions to the higher things of life!" His voice rose rapturously.

"If there are many more like Alpha will there be any of us left to consider 'the higher things of life'?" Melva asked, trying to divert his mind from the tragedy.

"What do you mean?" Ray questioned, his voice sharp with a sudden note of alarm. It was evident that he was terribly disturbed.

"Simply this," the girl replied evenly. "Alpha has murdered your father and you should acknowledge the truth. Why don't you face this thing squarely and admit that your perfect servant who saves you physical fatigue, possesses mental quirks that have made him a murderer?"

"But I questioned him," answered Ray, "and he says he found father dead."

"Then why did he leave you to discover the tragedy alone instead of apprising you of the fact at once?" persisted Mrs. Wilhoit.

"Gorillas cannot kill without leaving behind them

the tell-tale marks of their violence," said Ray.

"Not even exceptionally smart gorillas?" queried Melva.

"Not even those who are exceptionally smart, Melva," replied Ray gravely, "for their intelligence is all concentrated in the direct field of their particular labor. They are exaggerated specialists. Outside of the care of this house, Alpha is a fool."

"I wouldn't be too sure, my boy," said the older woman shaking her head sadly.

"Nevertheless," replied the youth, "many years in this work make me reasonably certain that I know whereof I speak."

"Indeed, we hope you are right, Ray," said Melva. "We—we are very sorry for your loss."

### Alpha's Treachery

FOR three months following the sad demise of the elder Stoddart, Mrs. Wilhoit and Melva toured the western states, returning to Illinois to say good-bye to Ray. They found him sad and lonely, but quietly determined to carry on the work bequeathed him by his father.

One evening, a few days prior to the date set for the departure of the visitors, Melva and Ray sought the lane that was shaded by the poplars. It had been an interesting day. Ray had been instructing two baboons who were specialized along mechanical lines, in the operation of a new farm implement. The baboons had proved very apt pupils, and before the day was over Ray was convinced that henceforth the care and operation of that machine or any like it could be entirely turned over to the two. Melva had taught four very young monkeys the names and different uses for all the dishes and silver-ware. They had played it as a game and the monkeys always considered it as such. Like their parents who for generations had performed table duty, the youngsters took to the task as the proverbial duck to water.

"You know, Ray," confided Melva, "for a while I rather lost the vision that our fathers had of the true greatness of this project. But lately I have caught some of your enthusiasm when I see what is accomplished here without the aid of human hands. What can not man do when, unhampered by the sordid, monotonous tasks of daily life, he will be at liberty to pursue science and art to the limit?"

"I have been on the lookout for a young man who seemed inclined to share my enthusiasm," said Ray with a curious glance at the face of his companion. "I am going west, out into the desert, where with unlimited possibilities of growth and in a climate more healthful for the monkeys, I shall quietly revolutionize the labor of mankind. Think of the time, Melva, when I can say that the day of man's emancipation has come!"

Melva was silent. Her previous ardor seemed to have left her.

"What is the matter?" her companion inquired. "Don't you believe the prospects of this enterprise demand a larger field of labor, and that I should have a partner to help me?"

"I do indeed," said the girl in mock solemnity. "I approve of the desert, the climate and an enthusiastic co-worker on this scheme, but why does he have to be a young man?"

"Well—you see," Ray said, looking off into the distance, "an older man like my father might——"

There was a sudden shriek. Ray turned his head to see Melva snatched at from behind the poplars and bushes that fringed the path and through the gloom he saw that she was being borne away, apparently unconscious, in the arms of Alpha. Ray began immediate pursuit, shouting the gorilla's name in imperious tones. Never before had Alpha so defied him. The distance between them rapidly increasing, Ray could hardly detect in the darkness the broad shoulders of the beast. He noted the light patch of Melva's dress floating through the air and deduced that Alpha had shifted his burden to facilitate his escape.

As Ray suspected, Alpha was headed for the monkey houses at the rear of the estate. The great ape did not possess the mental acumen to seek a hiding place. Ray had been right in his previous assertion that Alpha's specialization had made him a fool along other lines. The ape was now seeking the quarters of his mate.

By the time Ray arrived at the out-buildings which housed the monkeys, it was quite dark, and as he approached he saw a light flash on, only to be immediately extinguished. There was much confusion and chattering going on inside. When Ray finally burst through the door he saw nothing of Alpha nor Melva, but a group made up of gorillas, baboons, chimpanzees, orang-outangs and a few tailless monkeys who had formed a ring around some object. Ray hastened forward, thrusting the curious apes roughly aside. Lying prone and inert was the form of Beta. Ray learned from the onlookers that he had been killed by Alpha when he dared interfere with the predatory ape. Beta had been strangled. The tell-tale marks were plainly evident.

"Alpha cannot kill and yet leave no marks," said Ray aloud, as if to rid himself of an eternal overshadowing doubt.

But now was no time for idle musings. Leaving the quarters of the smaller monkeys, he forced a hasty passage-way to the rear of the building. And then a sound such as he had never heard in all the years of his work among these beasts fell upon his ears; raucous and piercing cries, and a deep thumping, like the distant beating of an African tomtom. Instinctively he knew it to be the sound of a gorilla on the war-path. Even before he could reach the door the thumping ceased, and was rapidly succeeded by the impact of huge bodies in conflict.

He opened the door and an amazing sight greeted him, but it was one that made his heart leap with joy. Melva stood beneath the high window gazing with terror-stricken eyes at what must have been a very rapid drama. On the floor was Alpha, who, curiously enough, lay in the identical posture of Beta, his victim of a few minutes before.

With a cry of joy Melva ran to Ray's side just as the irate female gorilla turned from the prostrate form of her dead mate.

"Omega!" said Ray in stern tones. "What have you done?"

The female turned her hate-filled eyes toward Melva, who would probably have been the next victim, but for the presence of the master. Ray

took a step toward the ape who coweringly retreated. Wishing to impress upon this servant at this critical moment the desired lesson, Ray stroked Melva's hair, patted her shoulder and said, "Nice Melva, good Melva." Then moving toward the carcass of the dead gorilla, he kicked it and said "Bad Alpha."

Omega comprehended, and appreciated the moral instruction which he was receiving, for the smoldering hatred died from her eyes, and in imitation of her master Ray, she kicked the body of her mate, and then, in spite of Melva's revulsion, stroked the girl's hair and patted her shoulder.

Melva tolerated it bravely, simply for the sake of the moral to be drawn from it. She smiled up into the serious face of her companion, whose appearance gave evidence of the birth of some new idea.

"The loss of Alpha and Beta will be a temporary set-back to the monkey-farm enterprise, but I have an idea," he exclaimed with boyish enthusiasm. "These monkeys must grow accustomed to the presence of a woman in their midst as a co-ruler with me. Pardon my stupidity, dear, I see now why I do not want a man, either young or old, as my partner in this desert project—because I want—you."

"It took a rather violent set of circumstances to convince you," the girl demurred, "and I am not sure but that a young man would be best for you after all. I hate being proposed to in a monkey-house! In the lane by the poplars would have been *so* much more romantic!"

He laughed and caught her to him in a close embrace. "You do not need to answer me now, Melva darling. Wait until we get back to the lane by the poplars."

## CHAPTER IV

### A Moral Issue

THREE centuries is a short time, geologically speaking, and Nature, through the action of the elements, accomplishes little during that span; but give *Man* three hundred years in which to change his environment, and he accomplishes wonders. Great as was the change in North America from the landing of the Pilgrims until the establishment of the first monkey-farm on a large scale south of Death Valley, it was infinitesimal as compared to the transition from the old order of labor to the new.

During the life-time of the early desert pioneers, Ray Stoddart and his wife, the former Melva Wilhoit, little public attention had been paid to occasional newspaper accounts of a "monkey-farm". But despite the ridicule of many, the years were proving that man had at last realized for himself an intelligent servant for the performance of those irksome tasks that had always chained him to earth. Just as in the life of the individual, many conscious acts are gradually relegated to the supervision of the sub-conscious mind, so the once menial duties of man were handed over to the less intelligent apes, liberating man himself.

Wilhoit Stoddart, the present proprietor of the original "monkey-farm," south of what was once Death Valley, was a direct descendant of Ray and Melva Stoddart. Apes bred by his ancestors and himself were carrying on the manual labor in every civilized country on the globe. This labor in the year 2216 consisted principally of tending machines; not only their mechanical operation, but the manufacturing output as well. And, as had always been proved to be the case among men, so it was among the intelligent apes: Some were more capable than others, and showed an aptitude for learning that was amazing. Of course the development of the ape cycle had not been alone by unconscious evolution. It was Ray Stoddart's son who had perceived that the evolutionary development of apes must be hastened. And so, turning over the actual management of his estate to overseers, he buried himself in his biological laboratories. It was a young vigorous man who entered the laboratory for a first time. But it was an old, bent but gloriously triumphant one who emerged thirty years later with the secret! By making extracts of the known glands of human beings and discovering a few for himself, he was able to procure in a concentrated form the vital substance that controlled the mental growth of the race. His next step was to test it on his apes.

His first success was phenomenal, but he died before he could extend it and his son was left to carry it on. It was found by Ray Stoddart's grandson that by application of the gland extracts to apes it was now possible to transmit characteristics of any desired kind and also to develop the speech organs of the rbutes. According, gardeners, domestic servants, chauffeurs, mechanics, were all bred as the result of a definite extract. Families of apes therefore became specialized and men made it a business to breed these specialized servants for sale to the general public.

"I do declare," exclaimed Wilhoit to his mother one day as they were enjoying the pure, clear air of their western home. "I sometimes think Rex, our local overseer, shows more intelligence than some human beings."

"Well, do you know," replied his mother, "I think that there are many people who should still labor as do the great apes. Unless a man is mentally ready for emancipation, he deteriorates instead of progressing. It has always been so. It seems that not all people can stand prosperity and the leisure that accompanies it. Take Hayes Sulter for example."

"There is something worrying me," pondered Wilhoit thoughtfully, "and I might as well tell it now while we're on the subject. There is a moral question that has arisen as to whether we should keep the apes in servitude."

His mother started in shocked surprise. "A moral issue, son? But they are beasts. Surely—"

Wilhoit leaned forward in his chair and his voice came in awed accent. "They are more than beasts. We have made them so."

"Hail, Abraham Lincoln!" said a sneering voice from the door. "Wouldn't it be some joke if the descendant of the illustrious Stoddarts who gave man his freedom from drudgery, should return him to that state through a mistaken sense of philanthropy? A nice mess civilization would be in, I must say!"

"Oh! hello, Hayes," exclaimed young Stoddart without turning his head. But Mrs. Stoddart glanced up at the indolent face of the newcomer.

"I think you misjudge Wilhoit," she said quietly.

"He has no intention of freeing the apes—why they're—soulless beasts. Aren't they, my boy?"

Wilhoit was enjoying himself hugely. He hitched his chair a trifle nearer to the one Sulter had nonchalantly lounged into, and riveted his eyes on the latter. "I'm not so sure about this soul business, and where the dividing line comes. If a lazy man has a soul, I believe an industrious ape has one too."

"Oh, Wilhoit," exclaimed his mother in shocked amazement. "If that is true, our system is all wrong and we should have to reorganize our entire economic life, and for that matter, our civilization."

"Yes indeed," chimed in Hayes, "and the age-old controversies of capital and labor would appear again. Excuse me for being frank, but no sane person would suggest such a thing. Just as the world begins to enjoy life, along comes an agitator and upsets things again. Bah!"

"Yes," said Wilhoit unruffled, "there have been many agitators known to history. They have shaken civilization out of its complacency. Struggle and turmoil have followed in their wake, but—the world has been better for their interference."

Hayes Sulter rose and bowed with mock courtesy. "Mrs Stoddart, we must do homage to this would-be savior and emancipator of the apes. Isn't he marvelous?"

### Signs of Rebellion

THE woman ignored the young man's sarcasm and continued to regard her son with a troubled countenance. The latter walked over to a side of the room that was occupied by the television screen and radio, but there was no response to his pressure on the switch.

"This is the fourth day," he remarked irritably, "that we've had no news of the outside world. Neither Rex, nor Vance (the ape electrician) has been able to locate the trouble."

"I'd invite you over to use ours," said Sulter with forced civility, "but we've been out of touch with the east for the same length of time."

Presently a light footfall apprised the three of the approach of some one. Upon appearance it proved to be a neighbor, Sylvia Danforth. The faces of the young men lighted up at the girl's approach, and Hayes hastened forth to meet her. But with no apparent rudeness she evaded him and smiled into the welcoming eyes of Wilhoit.

"I dislike being the bearer of bad news, Wilhoit," the girl said a little ruefully, "but father has had trouble again with his ape overseer, Felix. It has just been one thing after another from underhanded trickery to open defiance, but today's escapade caps the climax!"

"Your father's too easy with his apes, Sylvia," said Hayes smiling unpleasantly. "A little corporal punishment goes a long way."

"What did Felix do?" asked Wilhoit quickly.

"You'll wonder how things could have gotten so upset in a once orderly world," replied the girl miserably, "but Felix knocked the radio broadcasting apparatus to pieces and attacked father with a bar. It took four of us: two apes, sister Inez and myself to lock Felix up where he could do no more damage."

"You hear?" cried young Stoddart in an unconsciously dramatic tone. "The era has dawned when man can no longer depend upon monkey supervision of machinery. It is true that the ape intelligence that freed man from his drudgery is now working in its own behalf. If it is allowed to continue unhindered, it will result in the rise of a new order of beings who have become cunning, efficient and powerful. We have only ourselves to thank for the situation. We have created our own nemesis."

"Oh come, dear," said Mrs. Stoddart with an effort at cheerfulness, "you'll have to admit that what has happened is a rare exception. One overseer in thousands runs rampant, and you take it as an ill omen of the future. I thought superstition was a thing of the past. Besides they are just specialized creatures who have no initiative."

"Some have, mother. You know that a number have been bred to intellectual labor. Why should they not read history and think of rebellion! Besides it is not superstition, but reason, mother, to read the future by the trend of the present. What surer guide have we than the logical unfolding of events?" He rose quickly. "I must get back to the quarry. I can't trust the apes with any explosives yet."

Sylvia turned to go and Hayes was at her side.

"May I come over and see Felix?" he asked. "I flatter myself that my apes have never acted up. Maybe I can handle him in a way to insure future obedience."

"I strongly advise against violence, Hayes," Wilhoit called after him in steely tones. "My apes have never 'acted up' either, yet they know nothing but the gentlest of treatment."

Hayes and Sylvia walked down the broad shady avenue that led to the Danforth estate. It was a perfect day. Everywhere around them life's activities seemed to progress with customary unhampered regularity. The fields were dotted with monkey laborers; some doing physical work, others running machinery, and still others superintending. Many of the new fuelless, electrically-activated cars passed the two pedestrians, the majority of which were chauffeured by liveried apes.

Airplanes were still piloted mainly by human beings, though there were in North America in 2216 exactly 1308 licensed ape pilots who did nothing else but fly, and who were competent in their profession. It must be remembered that when a simian was bred to anything he knew it thoroughly, and usually he knew nothing else.

Sylvia and Hayes watched the speeding planes, and tried to guess which were piloted by men or women, and which by monkeys.

## CHAPTER V

### From Brawn to Brain

IF three hundred years had marked a radical change in the human inhabitants of the world due to their altered mode of living, it was trivial in comparison with that undergone by the great struggling servant class, the apes. Evolution progresses rapidly under stress and pressure. The human race had experienced and overcome its difficulties in centuries past. It had scaled the mountain and now at the peak of its civilization it did nothing but bask in the sunlight of freedom and leisure, apparently unmindful of the fact that

its unused faculties were deteriorating. And while humanity congratulated itself on the ultimate attainment of leisure, those who made this leisure possible struggled ever upward. Could they ever overtake those masters who had preceded them on the journey?

Man's first vital mistake, after the initial error of educating monkeys at all, occurred when he permitted them to organize. Had each man remained the absolute overseer of his own group of servants all would have gone well, but, eager to be relieved of all responsibility, he trained certain apes for the sole purpose of controlling and superintending others of inferior intellect. The efficiency of organization is irresistible, and the advantage of the organized monkeys over the scattered, pleasure-seeking, decadent members of human society was obvious.

After the efficacy of organization in the individual household was proved, overseers of neighboring estates were permitted to meet into higher clubs for the purpose of strengthening the working power of their groups. At first men had supervised these meetings but they had gradually become dilatory in attendance as they found that, left to themselves, the highly intelligent apes were able to work out their labor problems more satisfactorily. Men found it pleasanter to follow their own scientific or artistic bents, leaving the practical, active accomplishments of life to their servants. They begrudged time spent in conventions where the subject of discussion was the machinery of civilization and the practical carrying-out of labor schemes. Finally human attendance at even national conclaves ceased altogether.

The modern site of what had formerly been Death Valley remained the center of ape activities, although the human capitol of North America was in northern Minnesota. The apes themselves had renamed Death Valley "Reclamation City," for to the enterprising, progressive simians the new name had a pleasant significance.

Rex, the present Stoddart overseer, was the concentrated product of three hundred years of intelligent breeding for qualities of leadership. In him were focused traits which produced independent thinking. The principal simian characteristic of imitativeness still prevailed, but it no longer applied exclusively to the physical. His mental reactions, probably a complete evolution of the ape's innate cunning, would have done credit to a business man of the twentieth century.

Rex presided at the fourteenth annual ape conference held in Reclamation City which was once the very heart of the great American desert. He occupied the chair and gazed out upon the vast throng of his fellow beings with a new look in his little eyes. He knew well that the day had passed when perfection in his daily work for men would interest the ape. His ambition for his kind was bred of keen observation of the relative ability of apes and men. At his side was seated a wizened, undersized figure, an ape of the Baris species who was acting temporarily in the capacity of secretary. He was Marzo, an overseer from a large estate in the capital city in Minnesota. He had shown acumen in political matters.

"Fellow apes," said Rex, rising and grimacing at the restless assemblage in the great hall, "this fourteenth meeting here at Reclamation City marks a new day for us. We will not stop working, but we will work for ourselves, not for men. You who are here are all overseers, and will tell those under you what I say. But first of all let me tell you that what we plan must be kept secret from men as long as they seem to be our masters. Even they must not know that they are not until the time comes to kill them all."

Rex ceased speaking and looked down upon Marzo whose shrewd eyes moved restlessly between Rex and the assembly below.

"Do you want to talk?" Rex asked the other, noting his uneasiness.

### The Mysterious Ape

FOR answer Marzo came to the front of the platform restlessly fingering the pencil and pad with which he took his secretarial notes. A hush of expectancy hung over the audience chamber as he spoke.

"A year ago you chose Rex as your president because he was a Stoddart ape. He deserved the honor you gave him and his presidency has marked real advance in the ape cause, but I have another candidate to propose for the coming year; one who combines the cunning of the ape with the reason of the white man. This candidate has been advocated to the nominating committee by Waldo, chief ape of Reclamation City. I want to introduce him to you now."

At this juncture all eyes turned toward an opening door at the rear of the platform out of which emerged three figures, foremost of which was Waldo, head ape in this, his native Reclamation City. The last figure was Vance, Stoddart's electrician who came with Rex and was qualified to act as an overseer should necessity arise. But it was the figure between the two that arrested the attention of the monkey gathering. For a startled moment the apes thought they had been betrayed, so human was the second figure that came forward on the stage with Waldo and Vance to join Rex and Marzo. Curiously erect and practically hairless the being was a travesty on both man and ape. He appeared to be an animate reconstruction of the Neanderthal man with his thick neck, long muscular arms, receding forehead and beetling brows, and yet somehow his face gave evidence of more intelligence than is commonly accredited to those dawn men. He must not, however, be compared to the more advanced Cro-magnon. It was not that he was less intelligent, but because the trend of his development indicated lower ideals than those of the unfortunate Cro-magnon race.

As the trio advanced Marzo again seated himself while Waldo addressed the apes.

"Just at the time that ape civilization needs one who combines the qualities of man and ape, Gunther is born and comes to us to lead us from slavery. But he can tell you more about his plans than I, so I will let him speak."

Ever since Gunther had put in his appearance excitement had been evident in the hall, but suppressed so that not a word from the platform should be missed. As Gunther stepped forward a chatter arose that gave evidence of the really primitive ape nature that lay under the thin veneer of civilization.

"Gunther, Gunther!" cried the apes.

Gunther waited until all acclamation had ceased. He stood remarkably erect and surveyed his audience with a remote dispassionate gaze that was anything but monkey-like in its quality. Again, as upon his first appearance, enthusiasm waned, as doubt crept into the assemblage as to whether this being was ape or man.

Taking advantage of the temporary cessation of enthusiastic demonstrations, Gunther, the mysterious, began to speak.

"I claim to be the only missing link between you and those who have been your masters. I am unwelcome in their ranks, but to you I can offer much. In my veins flows human and ape blood and I believe I have been born to bridge the gap that would prevent the apes from gaining world power."

"We want Gunther for our president," was the unanimous cry from a multitude of throats.

But there was one dissenting voice. Rex recognized the fact that though he himself lacked human qualities, he was nevertheless the acme of ape intelligence, and as such represented a pure strain that had evolved naturally under the conditions imposed upon it. This Gunther was half-breed and Rex instinctively felt that he could not be sincere in his apparent loyalty to the apes. If Gunther preferred the latter to men it was only because he had not been welcomed to the ranks of mankind, and his hatred to men inspired a show of loyalty to apes. Such a motive was not to be trusted.

"I have a plan to lay before you," continued the half-human Gunther. "If put into immediate effect it should not be long before apes and not men rule this planet."

Here the creature's eyes gleamed with the visioned prospect, and his thick lips drew back from his teeth in snarling semblance of a smile. "Since men have withdrawn more and more from cities, and have become barons of estates, surrounded by their luxuries and conveniences that ape servants make possible for them, they are dependent upon the airplane and radio-televisor for intercommunication, the former for personal contact and the latter for exchange of ideas. Within the last twelve or fifteen years, airplane journeys have become less and less frequent with them, as they dislike any physical exertion whatever, and their radio-visors provide companionship from the depths of their easy chairs. Consequently the number of licensed ape pilots has steadily increased and it will not be difficult to wreck all human flown planes, proceeding cautiously so as not to arouse suspicion. But our strategic point of attack will be at broadcasting stations. How fortunate for us that men are not congregated in great cities as formerly. Had they depended upon machinery the city would have remained the logical community unit, but with intelligent apes to see to their every want, the isolated estate was the reasonable outcome.

"Of course they do have cities, but their boundaries are ill-defined and we find each man and his family quite dependent throughout this great country upon his overseer and the specialized apes. First, each of you must at a specified time, which we shall here agree upon, see that all airplanes are disabled and that radio-televisors are out of commission until we have control of broadcasting stations. It will be perfectly possible for each overseer to make his master believe that the trouble is local. The ape pilots, mechanics and electricians will work without avail upon the non-functioning mechanisms; then, while human communication is cut off, the apes will gain mastery over the helpless human beings and kill those who offer resistance. The men will know what it is to labor as we have labored: the women—well—you see in me the possibility of elevating the ape!"

Rex did not share the enthusiasm of the other monkeys. True, he yearned for power as much as did the rest, but a certain innate loyalty was inherent through generations of his ancestors, to the Stoddarts who had advanced him from his jungle state. He thought of Wilhoit Stoddart with an emotion akin to affection, realizing that his master was very likely the superior of the other masters of the apes represented.

## CHAPTER VI

### The Missing Link

A GONG sounded loudly. Instantly all was confusion, but above the din the new president's voice rose in shrill tones, "I give you four days in which to put out of commission all planes, and to gain control of all broadcasting stations. At the end of that time stations must be used by the apes for the furtherance of their plans."

Rex approached Vance, Stoddart's electrician, as they left the stage with the question, "What do you think of this Gunther and his scheme?"

"I think Gunther will make apes the rulers of men. I don't care for him but he will get us what we want."

Rex was silent. He dared not intimate that he was not wholly in sympathy with the ape uprising. He mentally questioned the ability of his kind to maintain permanent supremacy over a race that had hundreds of centuries' advantage over his own particular branch.

In a few hours all except resident monkeys had left Reclamation City. Waldo went to the broadcasting station where his master, Carl Brunenkant, the chief announcer, was just concluding a speech on the advisability of permitting the apes to have an hour a day for broadcasting purposes.

Carl asked his ape if the conference had resulted in plans for more efficient labor schemes, and Waldo replied that it had. The ape did not tell his master of the election of Gunther, for Carl Brunenkant, ever since he had learned of the existence of the missing link, had felt that it should not be allowed to live. But time had proved that Gunther was very capable of overseeing the labor of monkeys under him. He had been bought and sold and changed hands many times purely because of the prejudice against his origin. No one denied his ability as a first-rate overseer.

"Waldo," said his master, having suddenly determined to tell the ape of the white man's concession, "how would you apes like to have the air for an hour each day to discuss your problems? We are willing to give over an hour to you if you prefer that method to personal meeting at conventions."

"You are wise, master," smirked Waldo, though the man did not recognize the sarcasm. "Control of the air for one hour in the twenty-four would let us settle the difficulties of our life-work without leaving our homes, and almost without stopping our work. The apes living in the five cities of the country where broadcasting stations are located are leaders anyway, and they would broadcast orders to the overseers of all estates throughout the nation."

In the weeks that followed the last convention of the apes the plan of Carl Brunenkant and Waldo that the apes be allowed to broadcast an hour a day was carried out. Those apes who had previously assisted men at the broadcasting stations took complete charge, and were aided by apes of lesser ability. When it was quite evident that men were no longer even passively interested in the broadcasts of the apes, the animals discussed their situation with greater freedom. Discretion was thrown to the winds. Waldo and Gunther talked from Reclamation City, Rex from Stoddart, California, and Marzo from the capitol where he was

temporarily presiding until Gunther should arrive. Gradually, mingled with the legitimate business of the apes, a plan for insurrection evolved around the nucleus that was the mind of Gunther.

Carl Brunenkant had apparently fostered the new ape freedom, and although he occasionally appeared around the Reclamation City broadcasting station, neither Waldo nor Gunther suspected his attitude of good will toward them. He had always been a champion of the monkeys, and their recent broadcasting freedom was entirely due to his efforts.

One morning just before ape broadcasting hour Carl and Gunther entered the station at the same time. Carl noticed the suppressed excitement that the freak could not quite successfully conceal. At the exact hour of broadcast Carl bade goodbye to Gunther and apparently left the building, but as the half-ape, half-man creature mouthed his greetings into the microphone, Carl returned. He moved quietly with apparent intentness of purpose so as not to arouse the suspicion of apes working about, and in this way managed to get the content of Gunther's speech.

Gunther was stirring the apes to immediate insurrection. Carl was an eavesdropper outside the door. So this was what had resulted from the additional liberties that had been granted the great servant class! Yet as he stood, hesitant as to the correct course of procedure in the face of this dire calamity, Brunenkant realized that this was exactly the crisis he had hoped to precipitate by granting the monkeys unwarranted freedom which their unphilosophical minds could only interpret as license.

Outside were the sounds of rushing feet, startled, inarticulate cries, and back of these spasmodic exclamations, like a running accompaniment, there issued the incessant chatter of thousands of monkeys. This chattering was a mode of vocal expression to which they invariably reverted under duress.

Carl rushed to a window and gazed with horror at a milling throng on the streets below. Men were fleeing from the apes, who, armed with weapons of all descriptions, were capturing all human beings they could and killing those who offered too violent resistance. Into the young man's mind rushed the thought again that Gunther in the next room at the microphone was the stimulus for the atrocities he saw taking place in the streets below, and which he knew were being repeated at the devil-ape's instigation in all the cities and on all the estates throughout America. His fear-shackled limbs responded at last to the dictates of his brain, and with murderous intent he turned toward the broadcasting room from which issued the gutteral commands of Gunther.

### Gunther Retaliates

INSTANT mental oblivion was the reward of his belated action. A huge ape whose duty it was to protect Gunther during the inciting broadcast had felled Carl with a blow the instant he had made a move in the ape ruler's direction.

During the hours that Carl Brunenkant lay unconscious in the corridor outside the broadcasting room in Reclamation City, the nation-wide ape revolution had been proceeding uninterruptedly. As master of ceremonies Gunther still held the microphone and urged his fellow-beings on to conquest. His throaty voice was the first sound to register on Carl's mind with returning consciousness. Carl looked cautiously about him. The hall was deserted. He had been left for dead and was not being watched at present. He heard apes moving about in the outer hall near the entrance to the building. Presumably they were preventing new entrants, but it was evident no molestation was anticipated from inside. Carl dragged himself painfully to a sitting posture and listened.

Came the voice of Gunther, "Marzo, it is rumored that Rex has overcome his master, the great Stoddart, whom he deems more valuable to us alive than dead."

From the loud speaker issued the tones of the shrewd Marzo, "Let me summon Rex to the television screen and question him. He may tell me more than he would you, for I have never been his rival for power as you have."

Brunenkant crept cautiously toward the open door of the room whose sole occupant was the ape president-elect in radio television conversation with his dependable aides. Gunther's back was toward him, the television screen facing him with the wizened little face of Marzo who was temporarily acting as president, looking from it.

Suddenly the screen went black, Marzo had disconnected with Gunther in order to communicate with Rex, but in a second another scene flashed to view and prominent in it were the figures of Rex and Stoddart.

Carl Brunenkant and Wilhoit Stoddart had been college friends, and it was with the first feeling of joy that the former had experienced since the uprising of the apes, that he recognized his friend Stoddart.

"Now the apes will sit up and take notice," thought he. "Stoddart knows apes. They won't defy him."

But his jaw dropped as he listened to the words that issued from the radio, "I acknowledge my defeat, I have met my superior. What skill I may have in my line is at your service as yours has been at mine . . ."

## CHAPTER VII

### Open Revolt

MEANWHILE, indulging in pleasant, idle conversation, Sylvia Danforth and Hayes Sulter entered the gateway of the Danforth estate following their visit to Wilhoit Stoddart. Instantly they sensed that something was wrong. Apes were hurrying about in unaccustomed haste, their grotesque, hairy bodies intermittently visible through the dense foliage that surrounded the house. Sylvia hastened forward, calling her father and Inez; but the incessant monkey chatter about her rendered her voice inaudible. With the characteristic intrepidity displayed by the Danforths for generations, she pushed open the front door and entered the house. Hayes was a few paces behind her, but in the short time it took him to cross the threshold things began to happen. A scream of terror from Sylvia quite unnerved him, but mindful of masculine obligations, he pushed forward.

He was brought to a sudden halt by unexpected contact with a huge hairy body, and looking up with apprehension he met the baleful gaze of his own overseer, Tony. His horror changed to immediate indignation at this interruption of the orderly running of his estate, and he flew into a rage at his overseer's unprecedented behavior.

"What are you doing over here, Tony?" he demanded.

Those were his last words. The thick neck of the gorilla was suddenly thrust forward in a line with the curvature of the spine. The beast took one

shuffling step forward on his bent, awkward legs, seized the throat of his hapless master, and all was over before the latter could cry out.

Sylvia had been ignorant of the tragedy enacted at the door. She had been seized immediately by her father's overseer, who had been released by Tony; and despite her hysterical cries to be released, she had been ruthlessly borne to the library. The scene which she witnessed there was indelibly imprinted upon her mind. Her father had been strangled, apparently in the act of using the radiophone; and Inez lay a suicide, her fingers locked about the handle of the small revolver that was always kept in a secret place behind the mantel.

Inez' death was seemingly a surprise to Felix, though he appeared aware of Mr. Danforth's murder. Holding firmly to Sylvia with one huge paw, he shuffled over to the body of her sister and gazed at it in perplexity. A moment later Tony appeared on the scene. When he saw the lifeless form of Inez, his jaw dropped and his beady eyes bulged out in their intensity.

"You do?" his malignant gaze sought Felix.

"No, girl do self," responded Felix, pointing to the weapon clutched in the dead fingers.

"Hold live girl so no shoot," admonished Tony; then, lowering his clumsy bulk into the chair by the radiophone, to Sylvia's utter amazement, he called the Stoddart home.

As was natural, Rex, the ape overseer of Stoddart, answered the call.

"Apes rule," Tony called in excited tones. "Kill master and phone rest. Man now weak, ape strong. Ape rule world. Ape work, why not?"

The voice of Rex came distinctly to Sylvia's ears. Owing to the teaching of Stoddart he had much better mastery of the language than other overseers. Stoddart had in the past prided himself on Rex's power of expression. The creature could actually differentiate between shades of verbal utterance.

"Be careful," the words were well enunciated. "Tricks are better than force. Did you get girls? You know we need them for future race."

Evidently, for reasons of his own, Tony did not divulge the death of Inez.

To all this horror Sylvia was a silent and helpless witness. Would Rex outwit and kill the human inmates of the Stoddart estate? Sylvia had great confidence in Wilhoit's ability to handle his monkey servants. For many generations his ancestors had done nothing else. He was as qualified for success in his as were any of his apes in their specialized vocations.

### Ape Versus Man

WILHOIT STODDART was not exactly happy after the departure of Hayes with Sylvia. He had loved the girl since childhood, and while he had no doubt that she returned his affections, he did not trust the friendship of Hayes, and was troubled to have Sylvia in his company.

In this mood, he walked to the television screen and pushed a button. And now after a four-day hiatus the apparatus was functioning. It was as if he stood at an open window. A most unusual scene was depicted; a typical American city of twenty-third century, yet it was most unfamiliar in many of its aspects. Even in his panicky bewilderment Wilhoit observed the details of the scene before him, and the awful truth of its significance struck him with stunning force. *Men and apes had changed places!* The leisurely pedestrians were monkeys, big and little, while those who labored at the menial tasks of a complex civilization were men, cowardly frightened men and women, held in subjugation by the very beings whom they had once controlled.

What was this place where man's sovereignty had toppled? Wilhoit scrutinized the screen, but could see no indication of its locality. This was indeed not to be wondered at, for the trend of civilization had been toward a uniformity of civil and social structure until but little difference existed in communities.

With trembling fingers he turned on the radio, confident that the daily bulletin would give some explanation of the situation. It did—but alas for its revelation! A bestial snarl issued from the loud speaker, followed by a mirthless imitation of man's laughter—and then words pounding their horrible significance into Stoddart's brain—"and so by this time tomorrow every overseer must be in complete control of the man who once controlled him. We have nearly all the broadcasting stations now. Our sudden nation-wide uprising will put us in power. We have long deserved this. For centuries our bodies have been the tools of progress, then our minds took over this task while man has done nothing but strut about and play. We will continue this civilization where man has left off, but we will do it for ourselves and not for him. Those men who can be made to use their intelligence to further our needs will be used, the strong ones will work, the weaklings will be killed; the women who are young and—"

The ring of the radiophone in the next room turned Stoddart's attention in that direction. Scarcely before he had lifted his hand to disconnect the national broadcast radio instrument he heard the low throaty tones of Rex's voice answering the instrument. There followed a moment's silence and then Rex's warning, "be careful" roused Wilhoit to instant concentrated attention. "Did you get girls?" What did it mean? Wilhoit Stoddart after a flashing instant knew very well. The time that he had long dreaded, had come, though not exactly as he had feared. Through his brain flashed a casual remark made by a friend just last week, "Man need never fear the ape. When mentality and mere brute force vie for supremacy, the former will always win." But vaguely Wilhoit was beginning to realize that the *mind* of the ape was a power to be conjured with; and together with his superior physical prowess, he was a formidable adversary. Yet as he sat crouched, listening in stunned silence, the whole situation struck him as unreal and illusory. His faithful and capable Rex who had managed his affairs in a most competent and satisfactory manner would surely continue to do so. They were dependent upon each other. Their mutual exchange of service was absolutely indispensable.

". . . we need them for future race." The closing words of Rex's conversation stirred the eavesdropper to instant action. No longer did the situation seem fatuous. It was one to be instantly reckoned with. A sane man must perform a distasteful duty without fear or hesitation.

In a lower drawer of the writing-desk was a loaded revolver, but in order to reach it, it was necessary to pass the door which Rex, now phoning, faced.

It was a difficult situation for Wilhoit, but there was no other prerogative. It was suicide to tackle an ape unarmed.

It struck Wilhoit at once as strange that if the apes

had been wanting power for years; they should have been so long discovering this fact consciously.

The young man took a cautious step in the desired direction, but drew back as Rex came toward the door near which he crouched. The great hairy body brushed by Stoddart and ambled over to the television screen where it fumbled awkwardly with the buttons and dials. Now was his chance. The next few seconds were filled with activity. Wilhoit reached the drawer but it failed to respond to his first pull and before he could renew his efforts Rex had leaped toward him and pinioned his arms to his sides.

Struggle was not only useless, but dangerous. So this, Wilhoit thought, was to be the end of all man's effort toward a higher plane of existence! Man should never have relinquished his active hold upon the personal management of his affairs. With such intelligence as he claimed he should have been warned of the inevitable danger of trusting power to those whom he had enslaved. All of his idealism fled in this moment as the vision of a possible downfall of the human race flashed through him.

"Kill master." The words rumbled from Rex's throat and his grip about Wilhoit's chest tightened. The ape was repeating mechanically his orders.

The man gazed into the beady eyes of the monster towering above him, conscious for the first time of the power he possessed.

"Be quick about it, Rex," he muttered hoarsely.

The plea must have astonished the great ape, for he relaxed his hold and an expression of perplexity puckered his ugly features. Plainly he was being torn between love and duty.

"Surely such an emotion indicates the birth of a soul," thought Wilhoit, his terror giving way to a feeling of sadness. "It is possible I am in the presence of a representative of the next *future* race of our world. We human beings forfeited our birthright!"

It was apparent that love had conquered, but not without a compromise. Wilhoit was to live, but as a prisoner. As easily as one would carry a baby the huge ape bore his captive in his arms into the store-room where he secured a ball of stout twine. Returning with his burden to the den and placing a chair before the television screen he deposited Wilhoit in the chair facing the screen and bound him securely. This accomplished he turned on the radio and television and left his captive to enjoy it as he might.

## CHAPTER VIII

### A Rescue

ONLY by closing his eyes could Wilhoit Stoddart shut out the distressing scenes pictured before him on the screen, but he found his attention irresistibly drawn to the views which by the mechanical device so popular then shifted the scene from one population center to another, all showing with little variation the downfall of a civilization. No other destruction in history could be compared with it. If for an instant one is reminded of the descent of the barbarous hordes from the north upon the comparatively high civilization of Rome, he must bear in mind that at least those Vandals and Goths were human, and they were destined to pour strong fresh blood into the decadent life of the empire.

"Maybe my vision is too short-sighted," thought Wilhoit in his misery. "If man has come up through the ages from life-forms similar to the apes, perhaps ape ascendency at this time might be only a temporary setback for the human race and in that vaster concept that man can scarcely grasp, it may be nature's method of keeping us strong and pure. Evolution has not ceased, nor can we imagine it to cease until all life forms have attained a state of perfection."

Suddenly Wilhoit saw a very frightened looking man appear on the scene. He was speaking. "Fellow men, resist the apes no longer. They are qualified to be our masters; superior in physical strength and in mentality. We are nothing but decadent philosophers and dreamers. The Ape Cycle has come; and it is for the good of our race that we usher it in gracefully."

"The contemptible coward," muttered Stoddart, clenching his fists. "I'd like to lay hands on him!"

The man's place was taken by an ape who echoed the previous speaker's sentiments. Then the scene shifted and there flashed across the screen scenes of pillage and disaster where men tried to resist the power of the apes. It was evident that where monkeys could not get control of power-houses, radio-stations or airlines, they destroyed them.

Now the scene went direct to a broadcasting-station where ape announcers stood before the microphones, while human assistants stood helplessly by; again a view showed a few highly specialized simians occupying chairs of the nation's executives, while another depicted in the street murder, rapine and incendiarism.

Presently something touched Wilhoit's sleeve, causing him to start violently. It was difficult for him to realize that his body was not actually in the midst of the scenes which his eyes beheld. He turned round quickly, as far as his bonds permitted—and saw Sylvia crouching by the arm of his chair, a finger indicating that he must be silent. Swiftly she cut his bonds, grasped one hand in hers and in the other she placed a small revolver. Still maintaining silence, she led him from the room. The house seemed strangely deserted and they passed through to the rear without meeting a single ape-servant.

"Now," she whispered, "do your duty."

For a moment her words had no significance to the man, but following where she pointed, he saw a hairy prostrate form lying midway between the house and the power-station.

"Why," he gasped, "it is Rex, but how—?"

She nodded and pointed to the weapon which he held in his hand.

"You mean you did that?" he queried unbelievingly.

"Yes, I killed Felix and escaped a worse fate than death. Then I came over here to save you, if it were not too late. Oh—look!"

Rex was not dead. With obvious effort he was rising, and in his great black hand he held a small object that glittered in the afternoon sun. It flashed once, twice. Wilhoit had already fired and the ape dropped his pistol.

Wilhoit and Sylvia ran forward together as Rex made an attempt to recover the weapon. Wilhoit fired again, and the great beast sank to his knees, a gutteral growl issuing weakly from his throat.

"Well, I guess the game's up, old sport," said Wilhoit grimly as the gorilla clutched at his side. "Sorry to lose the manager of all my affairs, but I guess I can shift for myself."

The fierce little eyes of the gorilla rested craftily upon the face of his master. Yet in that gaze, mingled with the sly cunning, Stoddart read an emotion akin to pity.

"I am dying, master," the ape said, "but for your kind it is the end too."

Rex gradually sank back and in a few moments his body twitched and lay still.

### A Disguise

THE isolated estate of Wilhoit Stoddart had been a small but complete unit of civilization typical of the trend of rural progress in the twenty-third century. As feudal lords of the middle ages the human masters, surrounded by their monkey serfs, had reigned supreme.

Wilhoit, however, could not now trust any of his ape-slaves to assist him in a daring project which he had evolved, so, with regret, he killed his few remaining apes.

All the evening before and far into the next morning Wilhoit and Sylvia had planned the best method of attacking the organized ape-civilization of the world. One scheme after another had been discarded as impracticable; but gradually they evolved one that seemed possible of accomplishment. Of course they did not know what had taken place at Reclamation City. They did know, however, that the apes had removed their capitol to the former capitol of the nation in northern Minnesota.

One morning several days later Sylvia was at work in front of the hangar repairing the plane which had been damaged by Wilhoit's ape-pilot prior to his death.

Sylvia looked up from her work expecting to meet the adoring eyes of Wilhoit. She dropped her tools and stifled the scream that rose to her lips. Beside her stood a giant gorilla. *Any* gorilla would have been a formidable presence at that particular time and place, but this gorilla was none other than Rex—whom her lover had shot before her eyes!

A chuckle, most ungorilla-like, issued from the loathsome mouth of the beast. Sylvia gasped in relief.

"Oh, how you frightened me, Wilhoit! But you do look like the real thing. How natural the hide looks."

Wilhoit threw back the hideous ape-mask that had covered his head and regarded his sweetheart tenderly.

"It was rather a raw trick to pull, I'll admit," he said apologetically, "but I had to find out for sure what a successful camouflage it was. The hide dressed nicely and will prove a very useful costume for my proposed trip to the ape civilization centers."

"The plane is about ready," said Sylvia, "but I think you had better give it a final going-over. Here are the tools."

Wilhoit smiled down at her. "Still somewhat of a relic of the age when women were not at all mechanically inclined."

"It was purely a matter of environment," she countered. ""You know women finally came into professions that had been hitherto considered solely man's field, and they found they could do as well as their brothers."

"Granted," agreed Wilhoit, "but they have through it all maintained characteristics that no amount of environment can change."

"Only desirable qualities," she smiled up at him. "Won't you please give the machinery a final looking-over?"

"Which only proves my point," he remarked as he picked up the tools and went to work.

Precisely at noon he climbed into the cock-pit of his plane. With a last tender adieu to Sylvia and a warning to be on constant guard against chance prowlers of the enemy, he flew across the country. It sickened him to see with his own eyes the overthrow of man. Everywhere monkeys were in control.

There was not so much actual devastation visible as the subtler indications of a radical change of administration. Wilhoit saw now that the plan of the ape overseers must have been on foot for some time past, and that the secret must have been cunningly guarded. Naturally they had taken possession of the great centers first, and then carried the fight to the rural communities. That Rex had been biding his time for the opportune moment to strike was apparent to Wilhoit as he reviewed the events of the past weeks; a brooding unnatural reserve on the ape's part; catching the servant at eavesdropping; the apparently disabled radio and television, all things pointed to a plot that had been growing before his very eyes.

He was flying above what used to be the Canadian border when his plane radio-phone buzzed.

"Hello," he called.

"Who flies the Stoddart plane?" came the question. "You've been watched for some time. Where are you going?"

"This is Rex. I have Stoddart a captive on the ranch. Am going to the Capitol to see President Marzo. Come along. I have a great scheme."

He reached over and manipulated a dial on the complicated instrument board, looked into a small mirror-like object and saw there the faces of several apes grouped curiously together.

Before four o'clock Wilhoit spied the gleaming domes of the continental capitol buildings which were located at the geographical center of the North American continent. His radio and television were constantly active as he neared the national air-port, but it was apparent his disguise was satisfactory, for he met with no opposition.

Wilhoit was grateful for his almost instinctive knowledge of ape psychology. It would stand him in good stead in the present situation. So well did he know what Rex would say and do under these given circumstances that he felt his confidence increasing. Of course there was this fact to face, and face squarely. It would not be enough to do just what Rex would, natural as that might seem. He must talk as his servant talked, and put his knowledge of ape psychology to the utmost test.

## CHAPTER IX

### The Conference

PRESIDENT Marzo, who was filling the chief executive chair, was an ape of the Baris species. He was smaller than any of his executives who surrounded him; agile, cunning and with that rare type of intelligence that had become alarmingly manifest of late. But Stoddart felt equal to the task of matching wits with the little creature before him, who reminded him of a shrewd, wizened old man. Marzo knew Rex as a dependable ranch overseer, specialized in his particular type of work, but with nothing spectacular to his credit.

"Why did you want to see me?" Marzo's eyes surveyed the gigantic figure before him, and Stoddart trembled inwardly in fear of discovery.

"My master is tied and servants guard him," Wilhoit made answer in the excellent imitation of ape

talk in which he had become well versed.

"I didn't know you could fly a plane," continued the president suspiciously.

"Stoddart taught me a little of all kinds of work. I was his overseer, and he knew apes, and his father knew apes."

"Yes, yes," said the other testily, "but I want to know how loyal you are to us and why you have not killed your master as thousands of apes have done."

"I am with you," replied Stoddart, "and I did not kill my master because I think I can use him for the apes' cause."

"Yes?" queried the cunning Marzo, and the eyes of the members of his cabinet gazed intently at the gorilla.

"As you know," continued the disguised man, "my master knows more about the breeding of apes and their training than any man alive. His family has done nothing else for generations back. Unless we keep him to advise us, we may get back to what we were before man bred us for servants, and then this fight for freedom would be for nothing."

A chimpanzee-like creature standing behind the president spoke in high-pitched chattering syllables: "I don't trust you, Rex. You are the overseer for this one man in the world who knows more about us than we do about ourselves. He would know just how to get you to do his bidding. He has been an expert at that all his life. Fellow-apes, I advise that we have nothing to do with either Stoddart or Rex."

There was a rumble of mixed approval and dissent after the chimpanzee's words, but Marzo silenced them with an indescribable monosyllabic grunt.

"We have to take some chances," he said, then addressing himself to Rex. "Can we see Stoddart by television? I should like to talk to him."

"As you know, during this uprising we damaged the radiovisors, but I will return and repair it."

"Very well, Rex," said Marzo. "And remember Stoddart in the future is our servant. His brain will work for us as our brawn has for him and his kind in the past. Go and let us hear from you both as soon as you reach the estate."

"Are you and Stoddart the only ones at your home?" questioned the chimpanzee suspiciously.

"There are just two of us," replied the supposed Rex.

After he had left, the chimpanzee addressed his president again. "I don't trust either Rex or Stoddart. If you take my advice you will see that both of them are killed."

But Marzo insisted that the small ape's suspicions were unfounded. Then for several hours the cabinet meeting continued until a television call for the Stoddart estate from Gunther at Reclamation City ended the discussion. The screen revealed two figures; the one, Stoddart nodding in salute to the ape-cabinet, and the other, Rex, his huge paw resting on his former master's shoulder.

Wilhoit Stoddart spoke. "I acknowledge my defeat. I have met my superior. What skill I may have in my line is at your service as yours has been at mine. Rex wants me to talk personally with all the national overseers in the Grand Auditorium."

He turned inquiringly to the gorilla who patted his shoulder and nodded assent.

"I will come in person, or perhaps you would rather have me talk by radio, and you could be in your several communities." He paused for answer.

"Have him come in person," whispered the ever-suspicious chimpanzee to Marzo whose shadow he seemed to be.

"All right, but you let him alone," growled Marzo.

"It is better to have him in our midst if there is treachery," finished the self-appointed adviser.

"Very well, the overseers will meet in the Grand Auditorium tomorrow at this time and we will expect you, Stoddart, *in person*," said the president.

Wilhoit disconnected the radiovisor and turned to Rex who was acting in a most peculiar manner, and from whose hairy chest mild feminine exclamations were issuing.

"Wilhoit dear, *please* get me out of this thing. I'm nearly suffocating! It's a good thing you didn't talk five seconds longer or I'd have collapsed and given the whole secret away."

The young man laughed as he assisted the girl from the gorilla skin. "Well the game's on, darling, and you'll have to wear this outfit awhile tomorrow, but it won't be where you'll have to bear close inspection. It will just be in the plane, and I can fix it so you can have ample breathing space."

### What Happened at the Capitol

DURING the greater part of the night Wilhoit and Sylvia worked on a far corner of the estate making grenades of blasting material that had been used in quarrying stone for the construction of building foundations. Two monkeys had lost their lives a few weeks before through carelessness in handling the explosives, so that it had been necessary for Wilhoit to take over most of the dangerous work himself. The bombs were so heavy when completed that it was decided to construct a trap-door arrangement in the bottom of the plane, that could be opened by a lever releasing them to do their work of destruction below.

The early part of the following morning was spent in equipping the plane for the trip to the Capitol. With the bombs properly stowed, the two passengers climbed into the plane and sent it flying directly northeast toward their ultimate destination. Beneath them stretched a scene that would have been unbelievable to their ancestors of the twentieth century; the great American desert blossoming as a rose. The reclamation of the desert wastes of Earth had been accomplished during the early years of monkey training. Artificial rainfall and ape-slavery had made it possible to inhabit territory that had been just so many thousands of waste acres separating two thickly settled portions of a country.

They saw many planes traveling in their direction, carrying monkey overseers from all over the country. The convention would be a large one. Flying low over Reclamation City, Sylvia and Wilhoit noticed that the streets were crowded with scurrying figures, and they were amazed to note that in this one city alone, human-beings were in the majority. Why they should be more in evidence than the apes, could not be surmised until their radiovisor buzzed and indicated that someone in Reclamation City wanted to speak with them. They were surprised to see in the television mirror, not the face of any baboon-like creature, but the indignant features of Carl Brunenkant.

"Well—hello there—" began Wilhoit, but stopped at the contemptuous gaze that encountered his own.

"Wilhoit Stoddart," said Brunenkant in steely tones. "We have been watching what has been going on. Know that Reclamation City, which had been captured

by the apes is now in our hands again. We look with utter contempt upon you as a coward and traitor."

Brunenkant turned his scornful eyes to Rex from whom peculiar muffled exclamations of indignation were issuing. A quiet word silenced the ape figure.

"If you will descend quietly and surrender," pursued Brunenkant, "all will proceed in an orderly manner; if not we will shoot your plane down!"

Wilhoit thought of the girl at his side and of the bombs stowed on the plane floor. Yet he knew he was being watched by the apes at the capitol. But before a reply could be made a shriek of terror was followed by an inarticulate cry from the radio, and the television mirror depicted a surprising scene. Brunenkant's cry was cut short by the appearance of two gorillas who bound and gagged him so quickly that the two occupants of the plane could scarcely realize what was taking place. One of the animals bore away from the range of their vision the struggling form of Brunenkant, the other turned to the radiovisor and spoke. "Go ahead to the Capitol, Rex and Stoddart. We have just recaptured Reclamation City."

Rex nodded a curt acquiescence and Stoddart snapped off the visual and auditory connections with Reclamation City. He knew that Sylvia disguised as Rex would not bear close inspection, and that she dared not speak.

"I expect our fellow-men in the city below us need our assistance badly, dear," Wilhoit said as the plane sped on, "but we can render better service by getting to the Capitol. To help the citizens of Reclamation City now would be like shooting a gorilla in the arm when one could just as well aim at the head or heart and put the beast out of commission forever."

"This is 'gorilla' warfare," commented Sylvia dryly.

On the remainder of the trip they did not see a single community center in which men still ruled.

After a time there came a persistent buzzing in the radio that Wilhoit ignored as long as it was safe to do so. Then he at last answered by snapping in the switches. The two realized now that they were visible on the screen to the myriads assembled in the Grand Auditorium at the Capitol. Sylvia and Wilhoit viewed the vast assembly of hideous upturned faces; faces which masked the intellects that had attained such a high state of perfection that they had conquered their masters!

Stoddart spoke. "We shall soon be there."

"We want to hear from Rex," cried a voice from the assemblage.

"Yes, a speech from Rex who is bringing his master to us," called another.

SYLVIA raised her arm, encased in its heavy hairy covering and the throng shouted in acclamation. President Marzo drew back his thick lips from his protruding teeth to speak, when the plane suddenly lurched to one side and then dropped like a plummet. In the excitement of the falling plane no one noticed that Wilhoit disconnected the instruments of communication. All thought they were naturally injured in the fall.

A few seconds later the plane mysteriously righted itself and took off in the direction of a secluded landing place.

"Say, Sylvia, you sure were plucky not to scream and betray your identity," said her lover admiringly. "But I knew you couldn't make a speech without giving yourself away."

Hastily he revealed his plan to her, which they commenced to put into action. Wilhoit donned the gorilla suit and seated himself in the apparently wrecked plane admonishing Sylvia to stay out of range of the television. Soon he was in communication with Marzo and the assembled overseers.

"What happened?" asked Marzo.

"Enough," replied the supposed Rex. "—Stoddart lost control of the machine and we began to fall. I grabbed the controls in time to break the fall, but we hit hard. Stoddart was killed and it is just as well, for I was beginning to suspect him of treachery."

"So were we," exclaimed Marzo emphatically.

"It is well," came the gruff tones of Rex. "I know all he was going to tell you, and we can carry on our great cause alone. I'll start as soon as I can make some repairs on the plane. Am bringing the body of Stoddart to the Capitol."

He abruptly severed communication.

"Quick, Sylvia dear, you'll have to put on this suffocator once again. I promise you it won't be long now. For the rest of the act I am a corpse, but I will lie with my hand on the lever that will release the grenades, waiting for you to say when is the instant to act. We have to be careful all along the route, for spyglasses may be turned in our direction and we must be prepared to respond to insistent radiovisor calls."

During the rest of the trip to the Capitol television observers had momentary glimpses of an ape guiding a plane to the continental capitol, and slouched beside it in the seat, the inert form of the man who had been most dreaded in the newly-created monkey republic. At length the lofty buildings of the Capitol hove in sight. Nesting in the center of them was the low, broad structure of the Grand Auditorium. Twice the long awaited plane circled the low structure as a bird about to alight on her nest. The human beings and their ape captors that thronged the streets watched intently; the former with chagrin, the latter with elation.

"Now the plane will land on the broad dome of the Auditorium," cried many as the object of their scrutiny cut a half circle and made for the center of the dome.

"Let her go, Wilhoit," came a whisper from the gorilla's chest.

The hand of the apparently inanimate being pulled violently backward and almost simultaneously under the deft control of the girl, the machine climbed rapidly upward into the clouds. There was a deafening explosion and the plane rocked crazily.

"Keep her going, Sylvia. We must make altitude. Don't straighten out for another thousand. Gee, you sure are some pilot!" Wilhoit finished admiringly.

"You pulled a few fast tricks yourself," she threw back at him. "Boy, if I didn't have on this killing outfit, I could fly to Mars!"

Another thousand feet registered on the altimeter and Sylvia flew the plane in a horizontal position. Once again over a stretch of open country they descended, landed, and Sylvia shed her ape disguise.

"Do you really think that will be the end of ape rule?" asked Sylvia.

"It can not be anything else," Wilhoit replied confidently. "The outstanding ape intellects of the continent were wiped out in one fell blow. The remaining terrified, disorganized monkeys can be either destroyed or properly subjugated as the world sees fit."

* * * * *

A month later a pretty domestic scene at the Stoddart ranch was interrupted by a summons from the radio phone, and when connection was established a friendly countenance greeted Wilhoit and Sylvia.

"Carl!" Wilhoit exclaimed delightedly.

Carl Brunenkant smiled into the blushing faces of Sylvia Danforth Stoddart and her proud husband.

"You—know?" queried Wilhoit.

"Every one has followed your romance with intensest interest, and for its happy outcome the country offers its best wishes, but the nation's congratulations are extended to you, President Stoddart, and your presence is requested at the Capitol, for the affairs of the nation need immediate attention. Also I imagine the future 'first lady' will like to get an intimate view of the White House.

"You mean—" gasped Stoddart.

"The nation signifies its confidence in your ability and takes this means of showing its gratitude for deliverance from the menace of the ape cycle by electing you president of North America, and your duties are to commence at once."

THE END.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# THE MAD DESTROYER

**By the author of "The Reign of the Ray"**

THERE was nothing opposite my name on the assignment list, and though a promising crap game was going on in the engraving room the prospect of even such mild exercise as rolling the bones was unpleasant on so hot a night. At the risk of being nabbed for re-write duty I slipped into the city room, composed myself at my desk and began to look over the paper. I might have spared myself the trouble; the world wagged on without excitement; nothing ever happened any more. And out of sheer ennui I began to work the cross-word puzzle.

One side of an irritating conversation that McCarthy, the city editor, was holding over the phone with somebody began to impress itself on my consciousness and I looked up. Just at that moment he hung up the receiver; his eye lit up with the ghoulish glee city editors always have when they can give one an unpleasant task, and he called, "Furness!"

"Go out to thirteen Argule Road," he said, shoving me a slip of paper, "and see Professor William A. Brooke. Get that? B r o o k e, not Brooks. He's the astronomy professor at Lyon U., and he lives there. Has his observatory in the back. Got some kind of a story about a comet hitting the earth or something. Find out what there is to it, and get all the pictures you can. Might make a Sunday story if it looks good. And be back by ten-thirty; I want you to do some re-write on the A. P. mail stuff for fillers."

It wouldn't have happened on any paper but the *Times*, I told myself angrily. But McCarthy always had more reporters hanging around the city room than he knew what to do with (provided by a munificent and enthusiastic management which advertised a policy of "Covering every event, no matter how small.") To keep them in a proper state of subordination he felt it his duty to give them all a wild-goose chase once a week at the least. McCarthy! That fat tub of—butter! What makes him think he's a newspaper man? (I was boarding a car full of various sweaty individuals and wishing them all in Gehenna). How unpleasant he was with his moonlike face shining with tiny globules of perspiration.

The builders of Lyon University, wishing it to have the advantages of nearness to the city without the attendant disadvantages, had planted it far on the outskirts. Even beyond the main buildings of the place, and a good long walk from the end of the street car line on that hot night, was Professor Brooke's observatory—a little round tower with one long wing running out toward the street, perched atop the only eminence the county boasted. It had been the professor's home and workshop for a good many years.

Let's see now. . . . He had discovered the big comet there, good Lord, how many years ago? There he had conducted his researches into the motions of the planets. I remember the little parade when the ambassador of some foreign power had come to town to tender him a decoration in the name of his government, also long ago. Since the death of his only daughter, last year, the professor had been more or less in retirement. It was considered not good form to disturb the old man by signing up for one of his personal courses. There was even a rumor running through the whispering gallery of the newspaper offices that he had gone a little off his chump. Hadn't he got religion or something? Some queer story about his actions on the occasion of a noted evangelist's visit to town seemed to be just eluding my memory . . . At any rate, most people thought of him as a figure of the past, and it would probably have surprised even the readers of his many books to know he was still living.

FLETCHER PRATT

**SINCE practically the beginning of history, there have been predictions about the so-called "end of the world." Many of these predictions have been taken from Biblical quotations and others originated from the deluions of men who styled themselves as prophets.**

**Of course when they spoke of the "end of the world" they meant the destruction of the earth; for the cosmos itself is such an immense thing that it is almost hard to conceive of its total destruction.**

**There is no doubt, however, that what brought our earth into being—the collision of a great star and our own sun—might also destroy our earth. And, as our well-known author points out, it is not necessary, for the destruction of the earth, for a body to actually strike the earth.**

**It is certain that we, on our little earth, live a very precarious existence. We are practically at the mercy of the great cosmic forces about us, and there is no telling when some strange body entering our solar system may not end our short but glorious career.**

I toiled up the steps to the professor's front door. The bell was of the old-fashioned pull type; the house utterly dark. I gave a couple of vigorous yanks and heard a faint echo of the clamor, far away. No answer. I pulled again—and down toward the end of the long hall a yellow pennon of light shot out and an indistinct form was outlined against the glare.

It proved to be a woman, tall and muscular, with a face hardened by years of labor and grey hair pulled back tight from her forehead to a knot on the nape of the neck. "What do you want?" she inquired ungraciously, holding the door open a fraction of an inch.

Down the hall another streamer of light shot out. "I'm from the *Times*," I began, "Professor Brooke—"

"Anna!" came a deep voice, "Anna! If it's the young man from the newspaper, send him in."

He met me at the door of the room—a big man, well over six feet, now slightly bowed with age, with small eyes under a huge leonine mane of white hair, peering at me in a manner just barely courteous. (An irascible Professor Brooke, I thought). "Professor Brooke?" I began, in my best manner, "I'm from the—"

"Yes, from the *Times*. Come in. I have something of the utmost interest to the general public." He stood aside for me to enter, holding the door open with hands that trembled with the palsy of age. "You

are a college graduate? I asked particularly for a college graduate. The ordinary reporter would not understand the importance of the discovery I have made. It is necessary that it be set forth clearly as it is my final legacy to the world. I shall not be here long."

"I hope not, sir," I said, glancing up curiously. "Yes, I'm a college graduate. Cornell, '21." (Reporting teaches one to lie quickly and without effort.)

One had an impression of dusty age and Victorian furniture in his study. Pity Lyon U. couldn't put things in shape for its most distinguished professor. Or maybe he didn't want them to. . . High ceiling, fireplace surrounded by gimcrack carving. Shelves and shelves of books reaching away up into the gloom—a dusty gloom overhead where the rays of the old-fashioned oil burning student lamp on the desk could not reach. Victorian swivel chair in which the professor seated himself with a creak. No carpet—my footsteps echoed hollowly. Altogether an eerie place, like a room long abandoned by living things.

"Pull up a chair, young man. I dislike raising my voice." (His eyes, big and deep-set, caught queer gleams from the student lamp, like opals. A slight shiver of discomfort ran through me). For a moment he looked me up and down, like a new specimen. (Do astronomers examine specimens, I wondered?) I was recalled by his voice.

"Did you take an astronomy course at college?"

"No."

"Ah, too bad. My old friend, Professor Burgess has . . . pardon me, I had forgotten for a moment that he is dead. . . And doubtless you have forgotten a good deal of your mathematics. However, it is not important; the main thing is that you apprehend the facts correctly. I suppose I can trust you that far?"

I stirred in my chair and to encourage him produced the folded sheets of copy paper that are every reporter's notebook. (Singular beginning to an interview, I thought.) The student lamp guttered a trifle. He adjusted it, making tall shadows leap among the jig-saw decorations of the fireplace, and then fumbled in his papers.

"The world is coming to an end!" he ejaculated with startling suddenness, looking me square in the eyes.

"Yes?" I said (Too bad, I thought, the old man is giving out.)

"Yes!" Half rising from his chair. His voice went deep with solemnity. "You are skeptical. 'Hear now this, oh, foolish people without understanding; which have eyes and see not; which have ears and hear not.' The world is as sunk in material concerns as it was in the days of Jeremiah, the great prophet. But I can prove what I say; I can prove the necessity of contemplating the infinite." He paused, breathing hard. "You shall be my mouthpiece unto the generation, and I will reward you by preserving you from the wrath to come. The world must be convinced of its doom and given the opportunity to set aside material thoughts. I can no longer keep silent. I have consulted my conscience and find that I must speak."

"How can I help you?" (This was going to take delicate handling.

"Take down what I have to say. I have made one of the greatest discoveries in the history of astronomy and mathematics. But I take no credit. I am merely the Heaven-sent messenger, as you are the mouthpiece ordained. Hear me—"

### The Great Problem

AGAIN he stirred among his papers and the mouth was set in a grim line, while the deep eyes burned. It was very hot in the study.

"You know what the problem of three bodies is, no doubt. I have solved it, and with it, the problem of four, five or an infinite number of bodies."

"I understand. But wouldn't you explain it in your own words? A statement always carries more weight if it is a direct quotation, especially on good authority."

A piercing glare from the deep-set eyes. "Young man, I believe you have been lying to me. If you ever knew anything about mathematics, you have forgotten it totally. However, better a reed than no staff. I will tell you:

"You know that every astronomical body exercises a certain influence upon every other in accordance with the laws of gravitation. For your convenience,"—he accented the pronoun with what was almost a sneer—"I will state that law, which you ought to know. 'Any two particles of matter attract each other with a force proportional to the product of their masses and inversely proportional to the square of the distance between them.' That is, the larger two bodies are, the more they tend to draw together; the further apart they are, the less they tend to draw together.

"Under this law our earth, insignificant as it is, places a certain pull on every star in the heavens, even Sirius, which is many times the size of our sun." The strange light in his eyes seemed to be dying now; he had become the professor of astronomy, lecturing to a class. "You follow me?"

"I understand," I said, making notes rapidly.

"Now naturally the forces exerted upon each other by our wretched little planet and the star Sirius are very small, the distances between them being so great in proportion to their size. On the other hand, the force exerted by the earth upon say, a ball tossed into the air, is very great, as the two are so near each other. The ball falls to the earth at a speed which increases as it falls. You follow me?"

"Perfectly."

"You might think that the force of gravitation would cause the planets to collide or to fall into the sun in this case. It would, but for one thing: the planets are in motion. According to Newton's first law of motion, a moving body on which no force is acting tends to travel in a straight line with uniform speed. If a force is acting on the moving body it will change the direction of its motion. Now the planets are in motion; they would tend to travel in a straight line at uniform speed off into space were it not for the force of gravitation. Since they are, the force of gravitation, which would pull them into the sun were they at rest, merely changes their line of motion from a straight line into the path of an ellipse."

"May I ask a question, sir?"

"You may," with a regal gesture of the leonine head.

"Why didn't the planets fall into the sun in the first place before they got into motion?"

"There are various theories on the subject, but none of them are germane to the present subject. Permit me to continue. . . In short, the solar system is in a state of balance; the motion of the planets and the influence of gravitation keeps them relatively in their present position.

"Now it is possible to calculate the positions of two astronomical bodies of given mass at any given time

under the influence of their own gravitational force and whatever motion they possess. That is, it is possible to determine how they will affect each other's motion and what their positions will be at any given time."

He swung his arm up with a wide sweep. "God has given to the astronomer of the past an ability to solve this problem which is known as the problem of two bodies. It is accomplished with the aid of the calculus, which you should, but probably do not, understand.

"This method is used in determining the positions of the planets. It is comparatively successful because the sun bears practically the same relation to the planets that the earth would to a ball tossed in the air. It is so very large that its gravitational influence overwhelms all minor forces.

"The same method is used in calculating the movement of the moon with relation to the earth. But in this case it results in small inaccuracies because the moon is far enough from the earth to be influenced by the attraction of other bodies, particularly the sun. Similarly there are small inaccuracies in calculating the positions of the planets by the method of two bodies, since they are influenced by the gravitational attraction they have for each other. The changes in their motions caused by this influence are called perturbations."

### The Instrument of Destruction

HE stopped to let me catch up. The light quivered and the shadows moved; the heat pressed upon one with a weight almost physical.

"These perturbations are not serious. They alter the planetary orbits in small details alone, not the stability of the whole system."

He stopped again and cleared his throat, then rising from his chair began to pace the room, the long shadows following him before and behind as he walked, his white hair hanging about his face, his head bent. He stopped suddenly, and as the light caught his eyes there was again that opaline gleam.

"Now that the moment has come," he said, "I find it difficult to speak. What does the Bible say? 'As a thief in the night.' And yet . . . why was I allowed to discover this but to give my warning to the world to turn from material things before it is too late. . .

"Suppose you have three instead of two bodies to calculate. The masses of all three must be ascertained; their normal motion aside from gravitational and other influences; the influence of each on the other two. Obviously the problem is of immense complexity . . . In fact, let us take a case. Suppose there were a small planet revolving about the sun in a peculiar orbit. The earth's orbit is readily calculated. So is that of our hypothetical small planet. At a given time this planet comes very close to the earth, almost as close as the moon. Now the gravitational attraction of the earth will change its motion; in fact, the earth will seek to draw it from its path and make another moon of it. But the powerful attraction of the sun will not permit this to happen. The net result will be that our small planet will be thrown off its old orbit into a totally new one; in other words, the perturbations, the inaccuracies due to the attractions of other bodies than the sun, will be immense. Sometime in the future it will again pass through the spot where the disturbance occurred at the same time the earth does. There will be another perturbation, and the second one will be greater than the first; in fact, so great that the small planet may be hurled off into space, never to return. To calculate the path of the small planet through all these perturbations is the famous problem of three bodies. You follow me."

"I think so. If one of the bodies is very small and comes very close to another it will—run wild. And it's very hard to tell where it will go to."

"Excellent, excellent . . . That is the problem of three bodies. Now a mathematician named Sundman of Helsingfors has worked out a solution for this problem. But it is a solution involving so much effort and so great a time, that it is a mathematical curiosity of no great practical value. . . . An error of less than half of one percent in the weight of one of the bodies involved, for instance, would change the whole solution; and it is impossible to weigh astronomical bodies without an error of half of one per cent. . . . But I have now solved this problem of three bodies; or of four or five or an infinite number of bodies, and with a practical formula."

"Isn't that a matter mainly of scientific and technical interest, sir? How does it—"

"Be still! You are thinking on a material plane. . . None of the planets, most astronomers hold, are in danger of colliding with others, or of falling into the sun, or of being hurled off into space by the influence of other planets. There are numerous calculations to show this. But the calculations are incomplete. They are based on the solution of the problem of two bodies. A very small planet strongly attracted by others is related to the problem of three or four bodies, not the problem of two. Everyone recognizes this, but under the best formulae now known to the world it was not supposed that any planet would deviate far from the normal. However—" he drew a deep breath, reared himself to the whole of his magnificent height and shook his hand before my face, "there is such a planet." He glared at me from those deep-set eyes blazing now. "There is such a planet!" he cried again.

"Mercury . . . "I began hopefully.

"Fiddlesticks! If you had studied astronomy—if you had even an elementary education you would know that between Mars and Jupiter there are a number of tiny planets. The largest is hardly large enough to make a good-sized island on even this small planet of ours. They are called the asteroids. Some of their orbits are very peculiar, and that of the asteroid named Eros is so peculiar that at the one end it is near the earth, while at the other it is beyond Mars, far out toward Jupiter."

"Yes?" I said as he stopped.

"Eros is the instrument for the destruction of this world," he replied, resuming his march about the study, the vast mane of hair shaking like a white flame above his head.

"How?" I made bold to ask. "If it is so small, a collision with the earth would hardly—"

### "It Will Strike the Sun!"

"COLLISION with the earth! Who spoke of a collision with the earth? Absurd! Eros will not collide with the earth. If it did the only damage would be the passing from the material plane of some thousands of individuals within the immediate vicinity of the disaster. Eros will not strike the earth, but the sun!"

(I was evidently supposed to be impressed, and growing a little nervous under the impact of his mounting

vehemence, thought it best to appear so. Though why the collision of Eros with the sun should make a difference ninety-three million miles away, I did not see.) However:—

"You say you can predict this by means of your formula, professor. May I ask when the collision with the sun will take place?"

"What does it matter? 'She shall be utterly burned with fire, for strong is the Lord God who judgeth her.' . . . But wait, I forget myself; they will not believe unless I descend to their own petty plane and furnish them with material proofs. Here—"

He thrust at me a sheef of papers covered with the hieroglyphic signs of mathematical astronomy. "Have your paper print these. Take them to any astronomer. None of them are such fools that they will fail to recognize facts as obviously presented as these. Let them apply the solution I have here to the motions of Eros. It will at once become evident that Eros will approach the earth so closely on January 30, 1931, as to be seriously disturbed in its orbit. On January 22, 1933, it will again approach the earth along its new orbit and this time will be deflected into a path which under the influence of Venus (which it will also approach very closely) will hurl it right into the Sun on March 16, 1934. Twenty-three hours later life will cease to exist on earth. 'For the great day of his wrath is come; and who shall be able to stand?' But I will be beyond that; it has been revealed to me that I am not much longer for this world. I must hasten —oh, make haste," he broke off muttering.

"Why will the collision of Eros and the sun cause life on earth to cease?" I asked. "I don't quite see—"

"Any fool should know that. Look! If a body of even smaller dimensions than Eros strikes the surface of a star—I assume you have the elementary intelligence to know that our sun is a perfectly normal star —it will rush into it at a high velocity, thanks to the force of gravitation. In the denser layers of the interior of the star it will come to a stop, and its energy, which has by this time reached enormous figures, will be transformed into heat. I have calculated the amount of this heat; it is millions of degrees. So intense a spot of heat in the interior of the star, a pocket so much hotter than the surrounding matter, will bring about a further release of heat-energy from sources inside the star, and the center around this body will become still hotter. The temperature generated will be quite adequate to blow off the whole upper layer of the sun, at a speed so great that it will escape the gravitational force of the sun's attraction.

"The gases of the outer shell, at incandescent heat, will rush out into space at speeds of the order of 1700 kilometers* per second. For twenty-six hours the people of the earth will enjoy the spectacle. Then every vestige of life will perish in a rain of burning hydrogen and calcium."

I shuddered. The prospect was not attractive, the date dreadfully near. But would people understand the professor's technical terminology any better than I did?

"I'm afraid, professor," I said," that we couldn't use the story—"

"Couldn't use it!" he cried, his voice fairly making the ancient lamp on the table tremble. "Couldn't use the last warning of the doom that will inevitably strike the earth! Of—"

"Couldn't use it without having it couched in somewhat less technical language," I finished as firmly as I could manage.

"Oh!" He was silent for a brief moment, then strode to the door. "Anna!" he shouted, "Anna!" Interval of silence, then the pat, pat of slippered feet. "Will you call Mr. Schlecter?" He turned back to me. "I have an assistant who, however superficial and material he may be, is capable of accurately expressing the tabloid tendencies of this age. I was not minded to show him my researches, but he shall now convince you." He thrust his hand behind his back, sweeping back the folds of his old-fashioned frock coat, and began to pace the floor, his head shaking.

Schlecter, a thin, prematurely aged man with gold eye-glasses, came in almost soundlessly to be pounced upon at once by Professor Brooke.

"Here!" cried the old man, snatching the papers from my hands with the same imperious gesture with which he had placed them there. "Here, Schlecter, look over these and tell this young man in your modern jargon what they mean." He thrust them under his assistant's nose almost threateningly. The assistant took them without a word, and pulling up a third chair to the circle of light from the student lamp sat down and began to examine them. An assistant used to occasional tantrums on the part of his chief, evidently. If he could be so colorless under it . . . I began to recover something of my poise.

### It's All Up with Us——

IT was infernally hot; my hands were clammy. The room was silent. Schlecter bent closer over the papers, turning a sheet with a rustle that was like a crack of thunder in that quiet and stuffy place. Abruptly, Professor Brooke resumed his promenade, muttering to himself—"sword of the Lord of Hosts," I heard him say as he passed close. Almost a trifle mad, I thought. Curious . . .

A frown leaped suddenly into Schlecter's forehead; again he adjusted his glasses, and his fingers made the motions of a man writing figures as he concentrated on the checking of some calculation. I looked at my watch. Nine-fifteen; I would have to get on with it if I were to be back in time to write McCarthy's A. P. mail stuff. But then, I decided, with a wave of indignation, it would be his own fault for sending me out on such a chase if I didn't get it done . . .

I was recalled to my senses by a sudden ejaculation from Schlecter. "Good God!" he had said, in a low tone, and then, with his face low over the papers, he began to ruffle rapidly back through them, checking his results. Professor Brooke paced the floor, paced the floor, back and forth, unheeding.

Nine-thirty; forty-five. An hour back to the office; the bulldog edition would be going to bed; fat McCarthy in a temper. I must get out of this mad house where they either talked in quotations from Revelations or did not talk at all. I stirred uneasily.

Schlecter stood up, and I noticed his face was a trifle pale. He turned not to me but to Professor Brooke. "This is terrible, sir. Do all the results you have here check? Are you certain—"

"Certain!" it was a bellow. "Of course. I do not deal in unproved theories. Would God have given me this light for nothing? There is yet time. In the little over three years remaining, man may still forsake his material standards and justify his existence before the Great Throne. I shall be the instrument of deliverance, and this is my mouthpiece." He touched me on the

* Slightly over 1,000 miles.

shoulder. (Quite definitely mad, I thought; the gleam behind his eyes had gained complete control.)

The assistant turned to me, his colorless voice just a trifle trembly. "From Professor Brooke's calculations," he said, "it is possible to draw only one conclusion—that the world will come to an end, or rather life on it will, on March 17, 1934."

"Would you mind explaining?" I began.

"I—well, see here," Schlecter began. "Have you ever heard of steel workers being burned to death because a drop of water fell in their buckets of hot steel and made them explode? . . . Or, better, have you ever seen smoking hot grease fly all over a room when something cold was put into it—a drop of water, for instance?" I nodded. "Well, that is roughly what will happen when the planet Eros hits the sun. Only more so. . . . You know what makes meteors flash through the sky? They are solid stones which are set on fire when they come in contact with the atmosphere, travelling at the immense speed they do. Well, now imagine a meteor as big as New York City, striking an atmosphere several hundred times as dense as ours. It would make a tremendous blaze, wouldn't it? And the heat around the spot where it struck would be something terrific, wouldn't it? Well, that is about what will happen when Eros plunges into the sun. Now the sun is mostly a gas; and when you heat a gas several times beyond the heat it is at already, the gas expands very rapidly; in other words you get an explosion. So that the arrival of Eros in the sun alone would be enough to cause a big explosion there.

"Now on top of that the sun produces heat on its own account, and the arrival of such a disturbance in its interior would be quite sufficient to increase this production to a point that would make the explosion more violent than ever. It would, in fact, blow the whole hide right off the sun at a speed that would cause it to reach the earth in just about one day . . . And the hide of the sun is made of red-hot hydrogen and metals," he added, reflectively.

A moment's breathless silence. "You see," Schlecter continued, "this sort of thing is happening all the time in the universe. At least ten, and more likely more, novae appear every year. Do you know what a nova is?"

I shook my head.

"Well, a nova is a very dull star which suddenly becomes very bright. This means that it has grown much bigger or much hotter. But after a short time the nova always returns to its former state, which means that the change is temporary.

"Now it has been found by spectroscopic observation that novae are surrounded by shells of gas, which are expanding in all directions at immense velocities. There is only one explanation capable of meeting all these facts, and that is an explosion in the star itself. If it ran into something it might be bigger and brighter, but it wouldn't have the expanding gas around it.

"It must be that these explosions are caused by some small body falling into the stars that become novae, just as I have told you. In other words, the same thing that has happened to a good many other suns is going to happen to ours. . . . It's tough on us, that's all," he finished with a wry smile.

"But what is going to cause Eros to fall into it?" I asked.

"Attraction of the earth," said Schlecter, briefly. "The earth will send it off on a new orbit which will bring it so close to the sun that it will fall into it through gravity." He shook his head, gravely. "I'm afraid it's all up with us, young man."

### In a Madman's Hands

PROFESSOR BROOKE cut in. "That's all, Schlecter. Thank you very much for checking over my calculations." He led him to the door and as his footsteps faded down the hall, turned to me.

"Now, young man, do you understand and believe? 'And I will smite the inhabitants of this city, both man and beast,' says the good book. 'For the day of the Lord draws nigh, when the heavens shall burst in flame.'"

"I think I understand," I answered. "But there have been so many prophecies like this before, professor, that I think the public at large will demand some definite proof before they will accept it. Could you give me something like that—some present indication of what will happen?" (End of the world stories are the bunk, unless they have a solid base on facts; and if I could get one for this story, it might soothe the wrath of tubby McCarthy over my tardiness.)

"Fiddlesticks! Anybody—"

"May I suggest that you test it on your housekeeper, professor? If you can say to her the world is going to end, she won't believe you; but if you tell her the world is going to end, and that comet there proves it she will."

He glared at me, lion-like—lion in anger. Then he stepped to the door. "Anna!" he called again, and as the hard-faced woman appeared, "Come in. I wish to tell you something."

She entered, head high, wiping her hands nervously on her apron. "Anna," he said, drawing himself to his full height, and towering down on her, "the world is coming to an end. It is time to make your peace with God."

Anna looked up in wondering Teutonic stolidity. "So the preacher tells us, sir. We may die at any moment."

"I do not mean that," said the professor. "I mean that the world will be burnt up . . . in about three years."

"Yes, sir," she said. "Thank you for telling me, sir."

I could not repress a smile of triumph. Professor Brooke caught it out of the corner of his eye. "You may go," he told the old woman, and then as she left:

"You are right . . . I shall not cavil. Out of the mouths . . . But what shall I do?" He took up his pacing of the floor again, quite definitely mad, his walk a stumbling shuffle now, and the gleam in full possession of his deep-set eyes. Suddenly he stopped "I have it!" he cried. "Here." He sat down at the desk, rummaged out a sheaf of paper.

"Sit down, young man. I might have known. No prophet has honor while he still exists on this material plane. I have made the grievous error of thinking too much in the material plane myself. Self-sacrifice, that is the only method. My life for the salvation of the world. Hosanna!" The last word was a shout.

I folded up the papers and stuck them in my pocket. "Thank you very much for the opportunity to be your spokesman, professor," I said in the most business-like tone I could muster. "I will be going." (It would be just as well to escape this madman.)

"Can you not forget material considerations with me? You understand, you shall be called this very night." (I started.) "You are the chosen mouthpiece; you shall write your story here and now and Anna can mail it in for you. I will save you with myself from

destruction and the flame that endureth forever. You will have done well. Now—" his voice boomed out suddenly, as I made a move to rise, "do as I tell you. Sit! and write!"

I was looking squarely into the steel ring of an old-fashioned Colt held in a none too steady hand. The hair rose on the back of my neck and my forehead burst into a gentle perspiration.

"'Thou fool!'" the madman before me burst out again, "'this very night thy soul shall be required of thee.' By sorrow and self-sacrifice, and thus alone, can we win the great victory. Think how glorious it will be to die that the world may live spiritually; to turn it from the path of material things."

(What to do?) I swallowed hard. (I might at least play for time in the hope that pale Schlecter would come back or someone else call. And then, with a shock of horror I realized that the university was closed for the summer and the chances of a caller were almost nil. And if one came, it might precipitate the —tragedy. I visualized the headline "*Times* Reporter Slain by Madman.") I shuddered, and began to write, thinking furiously of how I might escape.

"Professor William A. Brooke," I began, "head of the astronomy department of Lyon University" (My God, would these be the last words I ever wrote?) "announced today his discovery that the world and indeed all life in the solar system, would be blotted out on March qe&quoeemehxx—" (The inspiration! I had it at last! But would it work?)

"By the way, professor," I turned from my typewriter with a flinch as I saw the muzzle of the gun still pointing in my direction, "you want this story to be played up pretty big, don't you? May I suggest that we'd have to have illustrations of some kind for it to gain attention. You know how it is . . . Have you got a good photo of yourself and some diagrams that would make the point clear?"

"Foolishness. That is a matter purely material—"

"Yes, I know," I said, "but you're dealing with materially-minded people. Of course, if you don't want—"

### The Rescue

HE hesitated for a moment. "I have the small photo that was used by the university in its catalog," he offered, "do you think . . ."

"Wouldn't do," I shook my head decisively. "You wouldn't want our story spoiled for that. Your own name, professor, is the big thing about this story. I'll tell you—let me call up the office and have them send out a photographer. The story would certainly be great if it had pictures of us just before we—left."

"Why—ah—"

"A thousand people would read it for every one who would if it had no pictures," I pressed.

"True . . The material mind is impressed by material formulae," he mused, but a quick movement of the hand holding the gun followed me as I stirred in my chair. Then he seized the tempting bait. "Come. It is true that I owe it to the world to give it every opportunity. I will go with you to the telephone."

Our feet echoed in the empty and death-like silence of the dark hall. It was hot—but the perspiration on the back of my neck was cold.

"Seaside 3200," I said, and with an oddly detached feeling, noted that I stuttered as I said it.

"Hello! Give me the city desk. Is this Mr. McCarthy? This is Furness—out at Professor Brooke's. I've got a story out here that looks great . . . Yes . . . Take quite a lot of illustration. Send Hannigan out with his camera, right away, will you?"

"Hannigan!" the voice floated angrily to me down the length of wire, "we haven't anybody named Hannigan. Blow your nose and clear your head!"

"Yes, Dan Hannigan," I said. (A drop of perspiration ran down my nose, tickling.)

"Why, you young idiot, Dan Hannigan's the head of the detective bureau. Who the hell do you mean, anyway?"

"I know it. I've got something good here for him. Tell him to be all ready to shoot. The front door will be left unlocked for him. There's only one room with a light in it, down at the end of the hall. Tell him to bring plenty of film. There'll be quite a lot to shoot and we're in a hurry, so he'll have to work good and fast."

"Oh . . . " a moment's silence. Then in an altered tone. "All right, boy. Don't worry. We'll have him come right out. Hold it till he gets there." The receiver went on the hook with a bang. Good old McCarthy! I never had appreciated him at his full worth. He had understood. If I could only last till Hannigan came! I leaned back in the chair, weak with a sense of relief, but the towering figure of the professor warned me that it was not over yet.

"It's all right," I said, smiling wanly, "they'll send a man out."

"Excellent, excellent. Let us return and continue with your manuscript. It will be a convenience to have the photographer take it back with him, to save unnecessary delay."

As I wrote, he took the pages from my hand, making corrections and remarks. And to gain time, I took them back for recopying, writing each out with painful accuracy. (Would they never come?) The light was not good. Somewhere over at one side of the room a clock ticked monotonously. Tap, tap, went the typewriter . . . And then, so suddenly that I jumped, the sound of a slammed door, the noise of feet and creaking boards in the hall. My muscles tensed; a little shiver ran around my heart. Then a glad sight met my eyes.

In the door beyond the white head of the professor the light picked out one, two, three forms—good solid, stupid, glorious policemen with not a thought of the end of the world in the lot of them—and behind them the face of McCarthy himself, lines of anxiety drawn through its pudgy good-nature. One of the men sprang; there was a flicker of motion. I ducked; three sharp reports, close together, and a multiple flash as the student lamp shattered suddenly above me. A tiny sliver of glass struck my head. I looked up to see a film of flame spread across the lamp's spilled oil as it dripped on the papers, while over beyond the desk, one of the policemen, breathing heavily, was getting to his feet. Professor Brooke lay on the floor . . .

* * * *

And now I wonder. He was quite insane, of course. But he had always been a genius at astronomy and the line between genius and madness is so finely drawn that one cannot often tell where the one leaves off and the other begins. And suppose he should be right after all?

Most people laugh at the idea, I know. I put it into the story I wrote of his sensational death, of course, but the next day the paper must have received as many as two dozen letters calling our attention to the similarity between Professor Brooke's predictions and those

unfortunate ones of William Miller.* And when the news services in turn passed the story around the country we began to get angry letters from astronomers pointing out that the solution of the problem of three bodies was only a little less difficult than the quadrature of the circle; that Eros has approached the earth before without being sensibly disturbed in its orbit; and various other objections to the extent of many pages.

Schlecter, at all events, still believes with an intensity that has cost him his post at Lyon University. He insists that he checked over Professor Brooke's calculations and that there was no error in them; and on the very day after the tragedy he sat down with what small fragments the fire had left of them, to try to work out the correct solution. He is regarded generally as a man with harmless but vivid delusions, and the newspapers will no longer print his impassioned letters to the editor on the subject.

Not that there are not a few who agree with him—and I am afraid I must almost number myself among them. I have looked into an astronomy book here and there and find it is perfectly true that Eros will pass close by the earth on January 30, 1931—closer than it ever has. What if Brooke were right after all and this fair green earth of ours is to be shrivelled up in fiery rain? But not until the day has proved the event can we be sure whether he was entirely a madman or only a genius whose mind became unseated by the contemplation of a horror greater than most men can bear.

* William Miller was a prophet who appeared in Washington County, New York, in 1831 with the prediction that the earth would be destroyed by flames from the sun in 1843. He based his prediction on a verse in Daniel, and obtained a large number of followers; so many that there was a considerable uneasiness in business affairs in the Eastern States as the appointed date dr[illegible]

THE END


## *In the SUMMER 1930 ISSUE*
### *we present*

# ELECTROPOLIS

### *by*
### *Otfried von Hanstein*

WE are pleased to announce to our readers that we have purchased the American rights to "Electropolis," one of the greatest, if not THE greatest science fiction story that has been published on the European continent this year.

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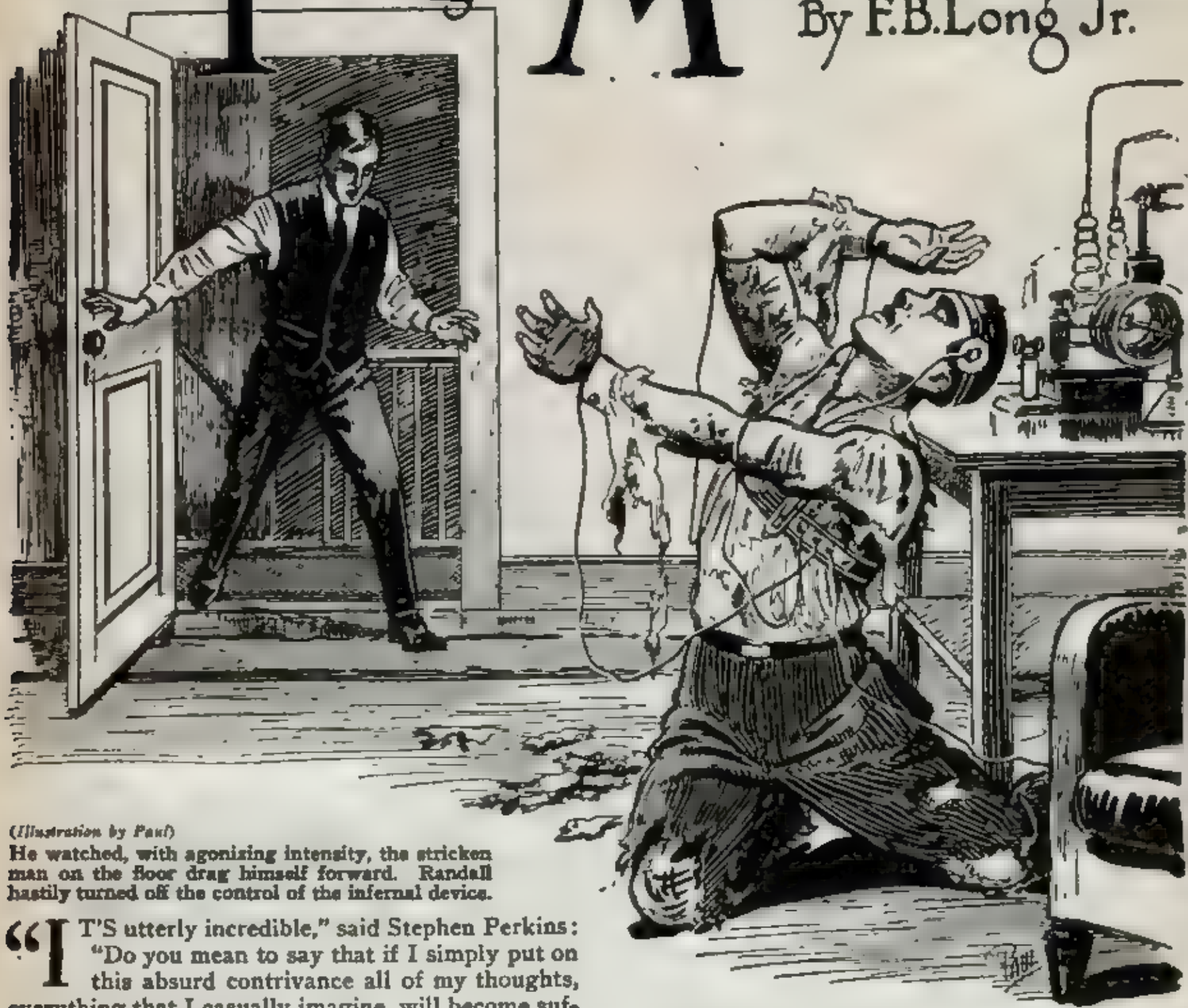
# The Thought Materializer

By F.B.Long Jr.



*(Illustration by Paul)*
**He watched, with agonizing intensity, the stricken man on the floor drag himself forward. Randall hastily turned off the control of the infernal device.**

"IT'S utterly incredible," said Stephen Perkins: "Do you mean to say that if I simply put on this absurd contrivance all of my thoughts, everything that I casually imagine, will become sufficiently *real* to affect my body?"

Randall smiled, "You will need a convincing demonstration."

"But do you mean that?" Perkins persisted.

"Precisely. With the assistance of this remarkable device your body will actually suffer or enjoy all of the experiences that you merely imagine. For instance, if you will mentally convey yourself to the seashore and imagine with the requisite *élan* that the sun is beating furiously down on your exposed back, you will become really sunburned." Horace Randall spoke with conviction. He held in his left hand the disputed contrivance—a curious, metallic belt-like affair equipped with electrodes and dangling wires and designed to encircle the body immediately above the heart. He had been struggling valiantly to remove his friend's coat. "Please let me try it on you," he pleaded. "I've toiled unremittingly over it for weeks and it's positively unique. You should be literally glowing with scientific fervor. There isn't the slightest danger, I assure you. I'll tell you what to imagine. I won't let you visualize anything really lethal.

"You see, I must find out how well the thing works; and I can't try it on myself and take abundant notes at the same time."

Stephen Perkins sighed tragically and permitted Randall to fasten the contrivance about his lean body. He waited with considerable trepidation for his friend to adjust the wires and other accessories—for a steel ribbon one-half inch in width to crawl upwards, like a knife from its sheath, until it rested at the base of his brain, and two thin wires to encircle his forehead. Then he asked a significant question:

"How does it work?"

"I presume," said Randall solemnly, "you mean, what power do I utilize? Electricity, for one thing, Stephen, and cosmic rays, and the elusive ether. This machine absorbs—I can't think of a more appropriate word—actually absorbs the vibrations which your brain emits when you think. You must pardon me for expressing it so laconically, but you wouldn't comprehend the abstruse technicalities. It absorbs the vibrations, and transmits them to your body intensified. It intensifies the vibrations of thought to such an extent that thoughts become living realities, capable of working an actual physical transmogrification in the tissues of the body."

Stephen Perkins looked genuinely frightened: "But—suppose the changes are permanent?"

"They are not, I assure you," said Randall: "All of the effects wear off in a few hours. And I promise you that I won't permit you to think of anything that would produce any really dangerous changes in the more vital organs of your body. We will experiment with mere skin-deep sensations at first. You will imagine, for instance, that a cold wind is blowing upon you, and we will observe the inevitable goose-pimples, etc. Shall I turn it on?"

Stephen Perkins hesitated. "Are you sure?"

"Oh, absolutely. There isn't the slightest danger. But you must exclude from your mind all dangerous images. Do not visualize anything really malicious or sinister."

"Precisely what images shall I avoid?"

"Anything capable of causing acute bodily pain. Do not visualize things that stab and tear and rend, and—and kill. But if merely momentary dangerous images appear to you the risk involved will be infinitesimal. It is only when you dwell on dangerous images intently, over intervals of several minutes, that the machine can transform them, or rather the vibrations produced by them, into a dangerous bodily influence."

"I see. I must avoid thinking of—sharks, let us say."

"Precisely. Or tigers. Or anything with teeth. And you mustn't imagine yourself in an automobile accident, or in an airplane."

"Very well. I think you may turn it on."

F. B. LONG, JR.

### Experiences By Proxy

RANDALL nodded gravely and unscrewed a tiny metal disk near the base of the belt. There ensued a low and eerie whistling sound. This continued for several minutes, and eventually subsided into a steady, monotonous drone. The electric lights in the room grew perceptibly dimmer, and a curious misty film formed upon the mirror above the mantel.

"Any ill effects?" inquired Randall anxiously.

"Haven't noticed any yet," said Perkins: "I'm trying not to think of anything that might—"

"Good. I approve of that. Just relax and maintain a receptive mind. I will suggest images to you."

Randall paused and ruminated for a moment. "I have it," he exclaimed: "We'll burn your thumb — only slightly, however. Imagine, please, that you light a cigarette and become so heartily immersed in conversation that you unfortunately forget to blow out the match. You hold it in your fingers until it burns you slightly, blackens the skin on the tip of your finger."

Perkins closed his eyes, and for a moment sat very still. Then he jumped, and gave a little, choking cough. "Damn near burnt my finger off!" he muttered: "Proves potency of imagination."

Randall was exultant. "It wasn't all imagination!" he exclaimed: "If you'll look at your finger—"

Slowly Perkins raised his finger and surveyed it in amazement. "Great Scott, you're right!" he conceded: "It's burnt rather severely. I—I'm not sure we ought to continue."

"Of course we'll continue," affirmed Randall cheerfully. "We've just begun to experiment. I want to prove beyond a doubt that the machine caused your burnt finger. Platitudinously speaking, the mind *is* even more potent than the Freudians picturesquely imagine; and I desire to prove that it wasn't mere *suggestion* that caused that burning. Listen intently now! You are sitting in a cold bath—an ice cold bath, understand!"

Reluctantly Perkins shut his eyes and visualized himself in a frigid bath. In a moment he was perceptibly shivering. "It's dreadful," he remonstrated: "I want to get out!"

"Very well. You

*IN presenting this story, it is well that the reader should know the full powers of mind.*

*Mental delusions can become so powerful that the subject not only feels them but lives them as well. Perhaps the most powerful example that could be cited is that of the well-known "stigmata." These phenomena occur frequently in some human beings and are well attested today and recognized by science. A recent case in Germany occurred where a young girl of hyper-religious convictions believed herself to be a reincarnation of Christ, and at stated intervals the inside of her palms and her feet would start bleeding profusely at the exact marks of the crucifixion. These marks were brought upon the subject by that excess of religious fervor. It is a case not at all unusual in medical records. The present story is, therefore perhaps not more wonderful than the phenomena of the "stigmata."*

may step out now."

Imaginatively Perkins stepped from the bath.

"Fire is preferable," he murmured. "I can't stand ice-water baths."

Randall laughed: "Very well! I won't send you to join Commander Byrd. I had thought momentarily of doing so, but we'll pack you off to Bengal, instead." He was running his hand over Perkins' exposed arm. "Cold, and moist," he affirmed: "You unquestionably entered a cold bath."

The telephone at his elbow was ringing insistently. Taking down the receiver he pressed it impatiently to his ear and spoke tersely: "Hello! Hello! What's that? Someone for me on the other phone downstairs? Oh, all right. I'll be down in a moment."

"I'm expecting an important call," he explained to his friend. "I'll leave the machine turned on; because I won't be away but a moment and, if I turn it off now, a great deal of expensively-generated energy will go to waste. Sit in that chair by the window, and *don't think of anything dangerous.* I'll be back in three minutes."

Perkins nodded gloomily and crossed to the window. It was a humid afternoon in August and he felt dreadfully tired. Even the cold bath had not sufficed to dispel his gloomy lassitude. Sinking wearily down in Randall's Morris chair he shut his eyes. The monotonous drone of traffic from the street beyond drifted in to him, merging with the lulling drone of the machine encircling his body. It was a foolish, ridiculous experiment, any way one looked at it, and it was inevitable that he should experience an overwhelming sense of weariness and disgust.

"He said he'd send me to the tropics," he murmured. "I don't know—that I should care—to go —on a day like this." Thinking had become an actual exertion, a process almost involving pain. He would simply relax, as his friend had suggested, and —and doze. Why not? It was very comfortable in the chair by the window. The sun streamed through the glass, penetrating his closed eyelids, and bathed his world in a rosy glow. Bengal—his friend had mentioned Bengal—India . . . .

India did, in a sense, suit his mood. He saw himself walking languidly through a steamy jungle with a gun under his arm and the sun in his eyes. A sense of mystery and adventure deepened about him.

He walked on and on. Behind every shrub and bush and tree lurked mystery. Little monkeys chatted in the high branches and hurled berries at his head. Parrots screamed and mocked him. It was absurd, of course, that he should go adventuring in such a childlike manner. He was not a schoolboy.

And yet, somehow, his surroundings intoxicated him. He had always dreamed of Bengal and, now, here he was actually walking through it. Was he dreaming now? It occurred to him suddenly that he might be dreaming. He experienced that sense of unreality that is so frequently present in dreams —the knowledge that one is dreaming and will presently awake.

The landscape through which he walked was distorted and unreal. The trees were twisted and cankerous and immoderately tall; there were ominous cup-like depressions in the moist soil beneath his feet, vaguely suggestive and familiar impressions. The *spoor* of some enormous and hellish beast?

Was it conceivable that some unnameable thing had stalked on before him? He found himself almost rejoicing in the thought. His fingers glided exultantly over the barrel of his rifle.

### A Terrible Meeting

PERHAPS he could overtake it and bring it down. He would search for it boldly and send bullets crashing into its great, lumbering body. He visualized the crack of his rifle, the clearing smoke and the great beast lying stark and lifeless at his feet. Joyfully he squared his shoulders. This was hazard, this was existence as he had always visioned it.

And yet, when *it* actually appeared to him, when it emerged from a clump of sinister vegetation not five yards from him, he experienced a sudden sense of overwhelming revulsion, of deadly paralyzing fear.

It was a tiger—and yet it was not a tiger. It was larger than any tiger that he had ever seen, and it was night-black and its eyes glowed with an unspeakable malignancy.

Slowly it advanced toward him, its shoulders humped, its bared yellow teeth drooling saliva.

Perkins experienced that terrible sensation, so familiar to all who dream, of not being able to move. His feet seemed cemented to the ground. Try as he might, he could not raise his right leg. Then in desperation his thoughts returned to the gun in his hand.

But somehow he couldn't raise the gun. Valiantly he strove to move his arms, but they persistently refused to respond to his exertions. He was as securely bound as though tangible cords encircled his wrists and ankles. And the beast was now very close to him. . . .

Horace Randall was discussing his invention over the telephone when he heard the first shriek. It did not immediately occur to him that the distressing sound proceeded from his own apartment upstairs and, although it vaguely alarmed him, he was so intent upon explaining the character of his invention to the fabulously wealthy gentleman at the other end of the wire that he did not give the matter his prompt attention.

"Yes, yes," he affirmed. "I assure you that the machine does really absorb and intensify the thought-vibrations of the *subconscious* mind. It works most effectively when the patient is asleep. No dream, no Lethean fantasy is too appalling or monstrous for it to—to translate into an objective reality. Indeed, the most ghastly of the shadowy terrors evoked during sleep by the introverted type of mentality may become, with its aid, virtually embodied, capable of working infinite physical havoc. Of course it cannot leave the body in which it originates. It can work havoc only upon the man or

woman who is wearing the belt. Dangerous? Of course my invention is dangerous—sinister, if you wish. But it is not designed for popular distribution. It is for the impartial investigator—the purely disinterested psychologist. Think of the infinite uses it could be put to by a Jung, or a—"

He left the sentence unfinished and the receiver dangling on its wire. He had heard—he had heard—Good God, what had he not heard! Pandemonium had broken loose upstairs; shriek followed shriek in terrifying, mind-stunning succession! Randall started forward with fear on his face, and in a moment was ascending the stairs three steps at a time.

The shrieks had prepared him for something disconcerting; but when he entered his room, and saw what had actually occurred, his brain reeled, and for a moment panic seemed about to claim him. He staggered and nearly fell, and was obliged to cling to a chair for support. He watched with agonizing intensity the stricken man on the floor drag himself forward; then, with a heroic effort, Randall recovered his wits, and hastily turned off the control of the infernal device.

Perkins' clothes had been stripped from his body, and his legs were bruised and lacerated. But his face had not been—clawed—and he was able to utter a few words before he collapsed: "Please take the belt off!" he pleaded: "I don't want to die with that thing on. Something—worse—might come—at the last moment. Although I can't imagine anything worse. It clawed and clawed and clawed. I couldn't escape from it. It sat on me and breathed in my face and clawed at me with its—It breathed on me—do you hear?" To Perkins apparently the clawing had been almost an incidental torture, of less consequence than the fact that the *thing* had come so hideously close. "It wasn't a tiger," he moaned: "It was something—unspeakable. Something obscene that I imagined. It was black and—it *breathed* on me!"

Randall assisted his stricken friend into a chair and hastily unstrapped the devilish machine that he had devised. "I didn't know—that you would think of anything like that," he groaned contritely: "How could I have anticipated such a thing?"

Perkins smiled wanly. "It's all right, Horace. I don't blame you—only—please send for a doctor."

"I will! I will!" exclaimed Randall: "And I'm sure you're not injured as badly as you imagine. Terribly scratched up, I concede, but we'll get you on your feet. We will indeed!"

It is to Randall's credit that he fulfilled his promise. He summoned his physician immediately; and it was due to the prompt aid administered by that gentleman, and his own assiduity as a nurse and psychic counsellor—he kept assuring his friend that his injuries were singularly trivial—that Perkins was up and about in less than a fortnight.

But the belt was never placed on the market. It was not even offered to a small group of purely disinterested psychologists; not even to Freud and Jung. It was simply reduced, by Randall himself, to a small pile of very inconsequential ashes.

But for months thereafter he was haunted by what he knew to be the potentialities of the thing he had destroyed. "Suppose," he confided to Perkins, when the latter had sufficiently recovered to listen calmly to him, "I had tried it on some animal? There is no reason in the world why it wouldn't work just as well on an animal, and—my friend, did it ever occur to you that animals must occasionally have unusual dreams? We know, for instance, that dogs dream very vividly. But even the lower forms of life may have certain visual powers. It is impossible to dogmatize about such things. Now just suppose, for the sake of argument, I had strapped that machine on a—a snake?"

"I refuse to suppose anything of the kind!" retorted Perkins. "It is a hideous, ghastly contrivance, and I'm glad you destroyed it."

Randall sighed. "Yes, yes, I dare say I acted wisely. And yet—and yet—I wish I *did* know more about the dreams of snakes!"

THE END

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# The Stone From the Moon

(*Continued from Page* 359)

"For twelve thousand years Huitaca encircled the morning star in her icy, dead ghost-ship. At last release came even for her. The final act of the drama I beheld with my own eyes. The curtain has fallen.

"To-day the lonely waves of the Atlantic cover the spot where once splendor and glory surrounded the people of that prehistoric time."

* * * * *

BURNS was silent. He sat sunk in thought at the table, as though he had not been speaking to the others, but had been conversing alone with himself.

No one spoke. The startling drama of prehistoric times was still echoing in the hearts of the listeners. Finally Buddy broke the stillness.

"And the moon-stone from the capsule," she whispered, "how did it get to Yucatan, and where is it now?"

"How did it get there?" repeated the archaeologist thoughtfully. "I don't know. Perhaps Quetzalcoatl, the white savior, carried it to the land of the Toltecs. It may have been handed down from generation to generation, from mother to daughter, from family to family, through the ages, until its destiny also was fulfilled."

"You no longer have the stone, Sir William?" said Lord Kingsley. "That's too bad! The British Museum would have felt itself fortunate to have received this rare discovery."

Burns shook his head wearily. "The stone has returned to its original home—to space. It was on the return from Venus. Korf and I were discussing the peculiarities of the satellite of Venus, and I was showing Korf the stone. Then Tuxtla crept up. Her hair was dishevelled and her eyes fiery. She saw the stone and snatched it from my hand. In fiendish delight she held the obsidian above her head. The sacred symbol suddenly shone like a portent on the blue of the water. Probably she had brushed the stone against her dress.

"Then she uttered enchantments, which were madness. 'Let stones rain down upon the ships of the enemy!' she said.

"Korf and I started back in horror, as there came a short, shrill, whistling sound, then a hard blow, and something whizzed past our heads. Korf rushed to the wall of the cabin. There was a hole there hardly as big as a dollar, as clean and round as the hole made by a rifle bullet! He cried to me that over on the other side there was a similar hole, where the missile had gone out! We quickly clapped small rubber plates over the openings, to keep the air in. The internal pressure held them tightly, and the danger of losing our air was thus averted.

"When we looked up, Tuxtla was swaying in the middle of the cabin, her face distorted and her eyes wide with terror! Her empty hand was bleeding from innumerable small scratches.

"The stone from the moon had vanished, struck and splintered to bits by its brother, the meteor, which had crashed through our 'Icarus'!

"'It is not the first time,' said Korf, whose words I remember perfectly, 'that a space ship has been struck by meteorites falling toward the sun. Once we even had a man killed by such a cosmic splinter. But this blow from the meteor—it simply is—!' Korf did not finish the sentence.

"Probably he was thinking just what you are thinking now. And that is something that can't be expressed!"

## CHAPTER XXV

### Visions

IT is Astropol. The giant reflector is now considerably larger. Six hundred hectares of silvery white sheet sodium glitter and shimmer in the frames. The wire skeleton floats in space like a gigantic spider web, forming a circle almost two kilometers in diameter.

At the centre of the system is a little dome, resembling a spider in its web. Two men sit in it, handling the levers which control the tens of thousands of facets.

The telephone speaks orders to them, and their hands work at the switchboard. The silvery facets tremble and turn toward the sun. A great pencil of light flashes down upon the earth.

A single man is sitting in the observatory of the disk of the station in space. It is August Korf. His eye is pressed to the eye-piece of the great telescope, while his fingers calmly turn the screw.

Water comes across the field of vision. The objective moves slowly sideways. Everywhere there is deep green water! It is the Atlantic. The surface is calm and mirror-like. Korf has long been awaiting this absolute calm down there. He calculates and reads the scales. One more tiny turn to the screw. . .

"It must be here!" he murmurs. "By the Tropic of Cancer! Evening is just coming on down there."

He lifts the telephone and gives directions. There—the sea lights up! Concentrated sunlight lies blindingly bright on the smooth surface. The water is glassy clear. One can see far below the surface from this monstrous height.

The solitary man moves the screw. Automatically the reflector follows. The light rays converge a thousand meters deeper. The eye-piece shows a twilight green. Sheets of rising water pass by and veil the image.

"Nothing yet! Five hundred meters deeper!"

And still there is hardly anything to be recognized in the glass. Korf reflects. "Still higher concentration of light will make the water boil. No matter! The lower layers are cold, they are under a high pressure, the boiling point is high, and it may take several minutes!" Again he sends orders over the wire.

The six hundred hectares of mirror now unite their rays upon a thousand square meters. Intensified six thousandfold, the sunlight blazes down to the bottom of the ocean.

Korf breathes faster. He sees vague pictures—gentle hills overgrown by seaweed and deep-sea plants, a plain with rifts in it, almost filled with the mud of ages . . . and there, rising like a sharp, regular cone, he views the pyramid and observatory of Botschika, with the muddy remnant of the walls! Does it not all gleam like gold through the green of the water?

The picture is past! The waters well up, seething and boiling under the heat of the concentrated solar energy.

"Thula!" whispers Korf in a tone of awe. "It is the truth! I have seen it, and I shall see it again, better than to-day—that magic land of Atlantis, dreaming away the ages at the bottom of the sea!"

His brain sets to work to devise plans for the improvement of the telescope.

* * * * * *

It is a sunny day in early summer near the Straits of Dover. Under the blooming fruit trees a gaily dressed couple is walking along the gravel path in the park of Dr. Bell's Sanitarium. On the left is the wide sea, greenish blue in its immensity.

The young woman breaks off a twig of white blossoms. The sun caresses her luxuriant blond hair, making it shine like gold against the wide sea.

With a tender look the man gazes at the sunny creature beside him. "Buddy!" he says.

Buddy roguishly turns her head and looks up from below. Then she starts and points her hand toward a group of acacias. "There, is that she?" she asks, softly, in sudden anxiety.

Burns nods his head seriously and sadly. "Yes, that is Tuxtla."

A slender woman in a flowing blue garment is standing under the acacia. She is looking out over the sea, which is foaming up on the cliffs. Her glance is lost in the infinite distance.

A little to one side stands a small pony-cart, with the seat decorated with tinsel to resemble a throne. Two of the attendants stand close by and do not let the invalid go out of their sight. Tuxtla raises her arm. There is dignity in her graceful movement. Her yellow head ornament gleams in the noon sun.

"Come hither, slaves! The carriage of the mistress of the world!" It is a voice deep but soft, as cooing as the love notes of the wild doves.

The cart rolls forward on rubber tires, almost noiselessly. The attendants spring up, throw themselves to the ground, and let Tuxtla, with head erect, climb over their bodies into the royal cart. Huitaca, the queen of all-powerful Thula! The pony draws the cart along.

"William, this is dreadful!" says Buddy, holding fast to her husband's arm, as though seeking protection from a nightmare.

"Will she never, never be sane again?"

Burns shakes his head. "Dr. Bell has no hope of it!"

"Poor Tuxtla!" says Buddy softly.

"Are you sorry for a being who is happy?"

"Happy? An invalid happy?"

"She is Queen Huitaca, because she is treated as such. She has entered into her kingdom. She lives where she believes she lives. What matter that her world is illusion? Let her have her world!"

Buddy leans her head against her husband's shoulder. "You are right, William! To be in harmony with one's self and with the world outside—that is happiness!"

She looks up with an anxious questioning look. "William, have you too found this happiness?"

"I have found it in the present, as she has in a prehistoric past!" says Burns with a smile. "The charm of the stone from the moon has long been broken!"

Thoughtfully Buddy looks out over the sea. "Isn't it strange, William, that a stone, a dead thing, can produce such mysterious bonds—between persons, between souls? A talisman—that uncanny, inexplicable word!"

"Uncanny, Buddy?" There is a light in William's grey eyes. "You yourself have such an object, a dead thing, that binds two persons together with magic power! Forever!"

Clasping the girl's slim white hand, he raises it and kisses the finger on which shines a band of gold.

"See, Buddy; Isn't this bit of metal our talisman, our stone from the moon?"

THE END


ANNOUNCEMENT

# SCIENCE FICTION WEEK

OWING to a great number of requests from our readers, the week between March 31 and April 7 has been designated as SCIENCE FICTION WEEK. This period will be for our readers an opportunity to spread the gospel of science fiction throughout their city. We are certain that all followers of our magazines will wish to help in making known to everyone the existence and the power of this great educational force.

Our readers may do this in several interesting ways which will bring them into the public eye and mark them as the pioneers in science fiction. Boys and girls may give speeches to their school mates in their classrooms, telling of the pleasurable hours, the stimulation and knowledge that come with reading science fiction; men and women may speak to their fellow-workers and friends; others may write letters to their local newspapers for an editorial on the subject, and so forth. This is going to be a big week for science fiction enthusiasts, and those who assist in spreading the news will be conferring an immense benefit on all who have not yet had the pleasure and profit that comes from close acquaintance with science fiction.

## — FREE —

In order to further this movement, the publishers of SCIENCE WONDER QUARTERLY have printed some attractive poster-stickers in several sizes, which will be furnished free, postpaid, to all readers. These little posters are available in the following sizes: 6 inches, 4 inches, and 2 inches. Our readers can obtain these by writing to the Editor, SCIENCE WONDER QUARTERLY, 98 Park Place, New York, stating how many they can use.

The purpose of the posters is to paste them in all available spots where they will attract passersby. Location such as, show windows, newsstands, telegraph poles, blank walls, etc. can be used readily.

This is a big movement, and we hope that our readers will be sufficiently interested to get behind "Science Fiction Week" in a big way and do their bit in spreading the gospel of science fiction.

# Within the Planet

(*Continued from Page* 369)

that he had sighted the body of the professor's victim. Considerable maneuvering followed before at last he indicated his success in reaching it.

The slight tremors which had continued ever since the major shock had been equally noticeable that morning and I had also noticed a very slight noise like a distant grinding.

As the soldiers handling the two ropes rested momentarily, I became aware that the force of the tremors was greater than it had been. The vibration had increased gradually and we had been so absorbed that we had not perceived it. It seemed to me that the noise was likewise increasing. I saw Professor Burlingham standing a few paces from me and moved over to call his attention to what I had noticed. Before I could traverse the distance I felt the ground rock under me alarmingly. The professor fell to his knees, as did one of the soldiers. At the same moment the most horrible conglomeration of noises from the earth's interior assailed us.

"Haul up that man!"

The sharp command was uttered by Colonel Durham.

With the ground rocking violently under them the soldiers began hauling in both ropes rapidly, like sailors heaving on a line.

It was a moment of the greatest tenseness and anxiety. Another distinct and forcible shock appeared imminent. All of us were in an extremely precarious position, but our danger was nothing compared to that of Lieutenant Williams, who faced a certain and horrible death unless we could get him to the surface before we were all thrown from our feet. I felt certain that the shock would come within a minute, as both the trembling of the earth and the noises beneath us were increasing steadily.

One soldier, near whom I was standing, called to me for help. Then I saw, what I had not noticed in my excitement, that he and one companion were drawing up one of the lines alone. There were eight men at the other line, and another would only have been in the way, but the two lone soldiers were having quite a struggle with their burden. It dawned upon me that Dick must have fastened the rope around the body of the underworld creature in time and that it too was being drawn to the surface. I jumped to their aid and the rope began to come in faster under our combined efforts. It was very heavy, confirming my guess that it was attached to the body Dick had risked his life to obtain.

I heard a cheer and saw Dick's head appear at the surface. The men helped him over the brink, and then Professor Burlingham, who had seen the efforts of myself and my two companions, brought aid to us.

The creature's head appeared over the brink and then suddenly shot downward, as the rope, hurriedly and insecurely tied, slipped from its chest and came free in our hands. Those of us who had hold of the rope fell backwards, and at the same moment the earth seemed to rise up and strike us a mighty blow.

It was an hour later when I recovered consciousness, to find the professor bending over me.

I looked at the professor inquiringly and he swung his arm in a wide gesture. I looked, and it was a moment before I found my bearings. The great opening in the earth had disappeared.

"The first shock opened up a path to a different world," said Professor Burlingham, pedantically, "and the second closed it forever. At least we have had the rare opportunity of a peep at an entirely different civilization and we have learned something from it. I hope that the demonstration that other beings, of intelligence surpassing ours, exist in the universe will give us a little humility."

"For myself, I will never deny the possibility of any conjecture, no matter how wild it seems," Dick said devoutly. I echoed his sentiment.

"As to those unhappy creatures of the nether world," concluded my eminent friend, "probably we shall never know how they have fared in this second quake. For my part I hope that their subterranean home has not been destroyed, as I fear it has, and that at some future date, when both we and they have grown in knowledge and wisdom, they may emerge to the surface and share our better world in peace and amity."

THE END

# Via the Hewitt Ray

(*Continued from Page* 383)

ground, I suppose he could not help himself, and I was continually trying to improve him. What woman can resist the temptation to reform a man?

One day about six months later I returned to the house for my three-day leave and found John meekly taking a scolding from our housekeeper. I sharply sent her about her business; then turned to John.

"Why do you do it, John? For the love of Mike! Brace up! Remember you are a *man*. Forget your other life. You are in a different world now. Remember, women aren't anything to be afraid of. They can't hurt you. Why, don't you know that you are in every way superior to a woman?" (May my sisters in feminism forgive the lies. I had to be drastic). "Just say to yourself—'I am a *man*,' and *be* one! If a woman doesn't agree with you, bully her. She will like it. Try it some time and see how it works."

"I believe I will," John said, and grabbing me he kissed me!

"Why, John!" I cried, astonished. "What made you do that?"

My father was standing by the window. I had not noticed him before.

"Haw! Haw!" he laughed. "Poor John was only taking your advice—'Bully them!' Ho! Ho!—'Try it some time!' Haw! Haw!—but seriously, Lucile, I am surprised to hear you, of all women, advise a man to look on himself as a woman's superior. I thought you wanted the men to admit the women's superiority."

"Oh well!" I answered nonchalantly, glancing out of the corner of my eye at John. "It all depends on who the man is!"

"Oh-h-h! I see," smiled Dad and with exaggerated solicitude tip-toed from the room.

THE END

# The Mechanical Bloodhound

(*Continued from page 387*)

Turning to Barton I saw his jaw clamped and his eyes shining queerly.

"Yes," he said slowly, "I know a man like that—but I didn't know he had an eye on Alice. I've heard a lot of unsavory rumors about him too, but I've always attributed them to nothing more than the gossip of a lot of busybodies. But show me how to handle this scentoscope of yours, and lend it to me with a camera, and I'll show you the person himself tomorrow night. I promise I'll take good care of the outfit," he concluded, turning to Professor Diel.

It was easily arranged and, as we drove off together, Barton had the desired instruments in his car.

The next evening we again congregated at the professor's cottage. Barton had brought the instruments back with him; also a set of negatives which the scientist at once began to develop.

"Get your daily call, Jack?" asked Becker.

"Yes. Tomorrow afternoon by four o'clock I hit the trail into the hereafter unless I light out before that—alone."

"Going to do it?" I inquired.

"Not by a darn sight!" Barton flared up, "Now that I know who he is, he can't scare me! By tomorrow noon he'll be in the coop anyway," he grinned.

Becker and I essayed to learn the culprit's identity, but Barton refused to enlighten us, saying we could wait until Professor Diel had finished the pictures. And before we left that evening they were ready. Three of the plates showed odor emanation lines which the savant declared identical with those he had previously decided as belonging to Barton's unknown assailant, and the fourth showed the man himself—a stout, self-sufficient man of middle age, black-haired and with an expression of oily, smug satisfaction on his rotund countenance. A black coat garbed him, and a red carnation was stuck in his left lapel.

"Who is it?" I asked again.

Barton grinned. "My boss—old Severson," he remarked easily.

"Your boss!"

"Sure. I work in a camphor plant, don't I? And he leaves the office every day at noon—plenty of time to send those calls while I'm still in the office. Works on the other side of my desk. Never did like him very much, and they say he's not only a bootlegger, confidence-man, and dope-importer, but some things even worse. He can easily run two or three businesses, you know. These photos were a cinch. Got to the office before he did, took a scentoscope picture of his chair, his side of the desk, and one of him by putting the outfit in the open safe behind him. When I went to get a drink of water I just pulled away the book in front of the outfit and snapped him. Nothing to it. The other photo I found in his desk. Always keeps a batch on hand for any of his lady-friends that drop in. Think you can fix it so that he won't bump me off before tomorrow afternoon, Professor?"

"Certainly, the proper steps will be taken," the scientist assured Barton, "I will attend to the rest tonight. Good night, boys! Sleep tight!"

The next morning Mr. Severson was placed under arrest on the evidence of Professor Diel, and though he vigorously denied having any such evil intentions toward Barton, he was detained until after the wedding of Barton and Alice Smedley. His trial will come up in several weeks, and although the evidence to be presented will be new to the court, I do not doubt that the high reputation of Professor Diel will substantiate the mute tale of the scentoscope.

THE END.


# *Are You Air-Minded?*

IF you are, you should not resist the impulse to read AIR WONDER STORIES, the sister magazine to SCIENCE WONDER STORIES and SCIENCE WONDER QUARTERLY.

In the April issue, are the most thrilling stories of aviation of the future.

In "Through the Meteors" by Lowell Howard Morrow, you will find the earth suddenly menaced by a horde from a far-off planet. Death and destruction are everywhere. . . .

In "The Heat Ray" by O. Beckwith, you will find a thrilling adventure of the air in which strange weapons used on airplanes put the world at its mercy.

Of all the terrible engines of destruction, there are none that can match "The Flying Buzz-Saw" which Harold McKay describes in the story by that name. The tides of battle had gone against the North American Federation. Then the flying buzz-saw came into action. . . .

If you have followed the adventures of "The Flying Legion" by George Allan England, you must not miss the last installment which is published in this issue. Or you can get the whole story complete in the January to April issues. This is indeed a masterpiece of aviation fiction.

Suppose you were living 100 years from now and you were a member of the earth guard, that band of daring protectors of our routes of interplanetary commerce.

And suppose there was an unbeatable criminal called "The Hawk" and it was your turn to match him. You could then imagine the amazing experiences that are depicted by Edmond Hamilton in "Evans of the Earth-Guard."

AND MANY OTHER FEATURES

# What I Have Done To Spread Science Fiction

(*Continued from Page 293*)

WITH the next issue of SCIENCE WONDER QUARTERLY, the publishers will give $170.00 in prizes to the winners of an entirely new contest in which every read of this magazine can join.

In publishing a number of science-fiction magazines, the editors feel that they have a great mission to perform; their mission being to get the great mass of readers, not only to think what the world in the future is likely to become, but also to become better versed in things scientific.

But it is impossible for us to succeed in our mission unless our science-fiction readers preach the gospel of science fiction, wherever and whenever you have a chance to do so.

The select group of science-fiction readers which now exists is a marvelous nucleus for a far greater mass of readers that are yet to come. It would seem to be a great privilege for the present group to spread the new gospel far and wide.

Many readers are, of course, doing this already; but they are not anywhere near numerous enough, and it is for this purpose that we have inaugurated this prize contest. All we are interested in at the present time is to spread the gospel of science fiction.

The prize contest might, therefore, be headed by the caption, *"What I Have Done to Spread Science Fiction."*

| | |
|---|---|
| FIRST PRIZE | $100.00 |
| SECOND PRIZE | $ 50.00 |
| THIRD PRIZE | $ 20.00 |

In the next number, three prizes will be given, as announced in this box. This will be the third of three contests. The closing date for the remaining contest will be May 15, 1930.

It will be run as follows: In the Summer 1930 issue of SCIENCE WONDER QUARTERLY we will award the prizes for the best letters, *with the accompanying proofs*, of what our readers have done to convert others to science fiction. The efforts that our readers put forth may be in the way of talks before clubs or school classes, letters written to friends or relatives, letters to local newspapers, etc. The proofs and letters that are offered should be as conclusive as possible; in order that the editors may really judge adequately the merits of the contestants. The proofs may be clippings from newspapers, letters from editors, friends, relatives, subscriptions obtained, etc. Address all material to Editor Prize Letter Contest, SCIENCE WONDER QUARTERLY. *This is not a subscription contest.*

The next series of prizes and letters will be published in the Summer issue of SCIENCE WONDER QUARTERLY. The prizes will be based on the evidence offered in their letters. No letter should be longer than 500 words. In case of a tie, an identical prize will be paid to the contestants so tied.

## Prize-Winning Letters of the Second Contest

### FIRST PRIZE $100.00

**Awarded to Raymond A. Palmer**
**1431 38th St., Milwaukee, Wis.**
**Developed the Science Corespondence Club**

Science fiction is one of the most important additions to modern literature since the days of Shakespeare; and is pregnant with wonderful possibilities for development into a new, and infinitely beneficial type of literature. Literature bestows knowledge and broadens the mind; but, science fiction gives not only the knowledge, but also the *incentive to actual achievement!*

Scientific literature, to achieve this purpose, must contain actual scientific facts and ideas not based on unfounded theory. Thus it is up to the writers of this fiction to include this real science and sound reasoning in their stories. To an author in New York City or Chicago or another large city that has a large and complete library open for his inspection, this is easy. He can go to the library and ask for books on Einstein's theory, on electrical phenomena, on radio, on anything. But what about the author in the small town, in the country? How does he find facts for use in building a sound scientific foundation for his fiction?

I, as secretary for the Science Correspondence Club, have done much for the spread of science fiction. A rapidly increasing membership numbering only thirty a few months ago, now counts itself well over two hundred with many on the list as applicants. This in itself is a good indication that a thing has been started which will prove to be a mighty factor in the advancement of Science Fiction. But inasmuch as the credit for this work is equally due to a score of others interested as well as myself, I shall not dilate unduly on it. Its scope is self-evident.

It is in the production of more accurate and better science fiction that I am now greatly interested. For this purpose, I have, with the help of the Science Correspondence Club, begun the task of collecting a scientific and science fiction library for use by authors as well as members. I am donating as a start, over fifty scientific books and various other scientific papers. In this work I have the promised assistance of other members who will donate their contributions to the cause. This library will be augmented by continuous purchases by the S. C. C. of the latest scientific works. Thus within a few years, there will be at the service of the science authors of this country a library well established in scientific works. They need only write and ask to have a book sent them, and it shall be forwarded promptly. We have now a group of authors in the club who are interested in the growth of this library. Their names and letters from some are included in the accompanying proofs.

The constitution of the Science Correspondence Club provides for the maintenance of this library and a librarian and assistants selected by vote. The club paper will print on occasion questions asked by writers and I have no doubt the writer will receive a flood of letters giving him the answers and data he desires.

So, with these varied facilities placed at the disposal of writers, science fiction is bound to improve in accurateness and value; and what surer asset can a business have than a satisfied customer. Satisfy a man and he will come again and *bring his friends!*

To improve a species of fruit, the grower does not graft a new leaf on the branch; he grafts a live section to the body of the tree so that its influence may be directed on the life-blood of the tree—the sap. In order to improve science fiction, it is necessary to graft the all-important scientific knowledge to the body of science fiction—to the life-blood—the authors. This is the purpose of the Science Correspondence Library.

Another of my ambitions has already been realized, namely to bring science fiction authors in contact with one another so that they may exchange ideas with one another and work in co-operation with one another. Thus it was that authors Jack Williamson and Dr. Miles J. Breuer were brought together, and the results are already evident in the "Girl From Mars" published in your Science Fiction Series, which is a co-product of the above named authors.

In closing, I will state that any prize this letter may bring will be used in the further enlargement of "The Authors Correspondence Library."

Raymond A. Palmer,
1431 38th Street,
Milwaukee, Wis.

(Attached to this excellent letter, were the proof of Mr. Palmer's extensive activities as secretary and one of the guiding spirits of the Science Correspondence Club. His work in establishing the library for science fiction authors and enthusiasts is especially valuable.

We believe that the club under the leadership of such a man as Mr. Palmer is becoming a great force in the spreading of Science Fiction among the masses of people. The final proof of Mr. Palmer's right to the first prize is evidenced by the last paragraph in his letter in which he states that he intends to devote his prize to the further enlargement of a library for his club.

### SECOND PRIZE $50.00

**Awarded to Conrad H. Ruppert**
**113 No. Superior St., Angola, Indiana**
**Started Science Fiction Week**

It is difficult to print all the letters that we have received from Mr. Ruppert, suggesting and urging upon us the idea of a Science Fiction Week. In fact we might say that when his first letter to us in which he suggested the idea became mislaid, he wrote us a severe criticism of ourselves and he continued to write to us about it until he had convinced us of the great idea behind Science Fiction Week. We have the assurance that he has the co-operation of all the magazines that print Science Fiction and also of the Toledo (Ohio) *News-Bee*. Mr. Ruppert's idea is really one of the best we have received.

His method of going about making science fiction week a success is so energetic that we cannot help but be gratified. He is writing to newspapers urging them to print editorials on the subject; and to friends persuading them to spread the good word everywhere. We are sure that when the Science Fiction Week is over and the country from East to West has been awakened to the value of Science Fiction, all our readers will agree with us in the right of Mr. Ruppert to the second prize.

### THIRD PRIZE $20.00

**Awarded to Allen Glasser,**
**THE SCIENCEERS**
**961 Forest Avenue, New York**
**The Scienceers Is His Medium**

If there is any one place that offers a fertile field for the spread of science fiction, it is the city of New York. Here, more than anywhere else in the world, does Science play a leading part. Dwellers in this mighty metropolis, which is in itself a masterpiece of modern science, are keenly appreciative of scientific achievement. They are more receptive to scientific knowledge than residents of any other community in the country. And, above all, New Yorkers as a class are future-minded; always eager to welcome new ideas and theories, such as are presented by the peerless Gernsback publications in the form of entertaining fiction.

With these facts in mind, several New Yorkers, who had gotten in touch with one another through the readers' column of Science Wonder Stories, decided to form an association devoted

(*Continued on Page 434*)

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# PATENTS

## INVENTORS

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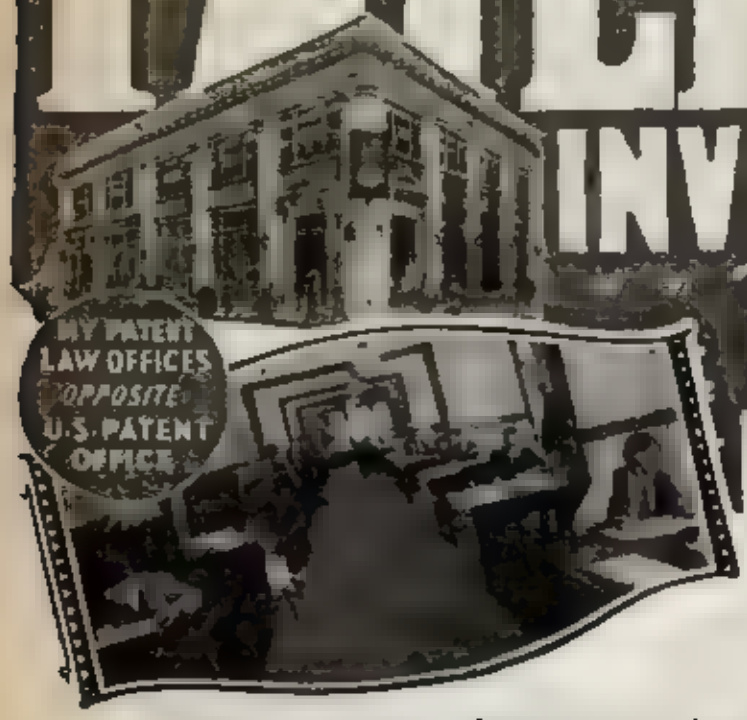


At the left is a view of my drafting and specification offices where a large staff of experienced experts is in my constant employ. All drawings and specifications are prepared in my offices.

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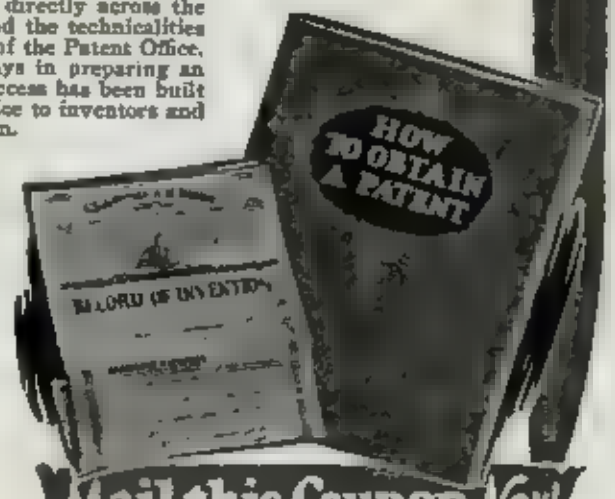


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## Prize Contest Letters

*(Continued from page 422)*

primarily to the dissemination of science fiction.

The first official meeting of this organization, known as THE SCIENCEERS, was held early in January. There were only four members at this meeting, but their enthusiasm made up for their lack of numbers. Each member pledged himself to notify his friends of the new club, and to invite them to join. The result was astonishing, and extremely gratifying. Within a week the membership had doubled, and since then it has grown steadily. At the present writing there are twenty-two members and five applicants. Since each entrant is required to acquaint his friends with the purpose of the club, there is a steady influx of new members.

In addition to these activities, the club is having printed several thousand circulars describing its origin and purpose, and lauding the virtues of science fiction, with especial reference to the Gernsback publications. These circulars will be posted on high school and college bulletin boards by the club's student members, and distributed to science classes wherever permission to do so is granted.

With all New York as a field for its activities, The Scienceers seem destined to become one of the most powerful forces in the country for the spreading of science fiction. Their success, so far, is attested to by the accompanying records and letters.

THE SCIENCEERS.
By Allan Glasser, Secy.
981 Forest Avenue,
New York, N. Y.

(Attached to this letter was a list of members of the Scienceers with their addresses, and also commendatory letters from others whom Mr. Glasser has interested in Science Fiction.

We believe that second to the Science Correspondence Club, the Scienceers is the best organization that has yet been started in the interest of Science Fiction, and we are very happy to award to its guiding spirit the third prize of our

---

There certainly exists a field for such clubs not only in New York City but in every city, town and village in the country.

In this way young people who have a similarity of tastes and interests can get together and discuss things in which they all have a liking.

We are very happy to do all we can to assist the Scienceers towards their aims.)

## The Reader Speaks

*In SCIENCE WONDER QUARTERLY only letters that refer to stories published in the QUARTERLY will be printed.*

### The Scienceers

*Editor, Science Wonder Quarterly:*

For the benefit of the readers of this magazine who reside in New York, a club known as *The Scienceers* has recently been formed. Its purpose is to provide a common meeting-ground for science-fiction fans and to foster discussion of the popular, non-technical side of present-day science. At the present writing, there are twenty members in this organization, all of whom are enthusiastic followers of the Gernsback publications.

Anyone over sixteen, regardless of race, creed, sex or color, is welcome to membership, provided he or she is in sympathy with the purpose of the club. Since regular weekly meetings are held, the membership is necessarily restricted to those living in the metropolitan district. A cordial invitation to join *The Scienceers* is hereby extended to all interested. Further information may be obtained by writing to the undersigned.

Allen Glasser,
981 Forest Avenue,
New York, N. Y.

*(Continued on page 426)*

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# The Reader Speaks

(*Continued from Page 424*)

## Through the Meteors

*Editor, Science Wonder Quarterly:*

I've been one of the great army of appreciative though silent readers of the magazine ever since its inception; but now it's my turn to express congratulations on the two great quarterlies you've turned out. They not only have attractive covers—the design on the Winter edition is a real work of art—but they contain really enjoyable and well-thought-out stories. Were I to list these in order of merit, I should place Gail's "Shot Into Infinity" first, unquestionably. Here is a real story, with the romantic interest definitely subordinated to the scientific element, as it should be. In many of these pseudo-scientific works, it isn't. Herr Gail, with characteristic German thoroughness, has built up a convincing, logical story, that really "grows on" the reader. Placed in contrast with "The Moon Conquerors," the lack of unity and coherence in the Romans story becomes increasingly evident. Of course, the two works are entirely dissimilar, the one being an excellent, though rambling, fantasy; the other, a masterpiece of scientific writing.

Unfortunately, neither Herr Gail nor Mr. Romans has devised a method of warding off meteorites of any size, while traversing extra-terrestrial regions. As I understand, these obstacles are not to be sniffed at, even by the author in his study, for it seems that they constitute the real bar to space-travel. One can't reasonably maneuver all around his course trying to dodge star-dust. Richard Seaton solved the problem in "The Skylark of Space," but he had to use "X" in order to do it, so he might just as well have side-stepped the problem, as far as we're concerned.

Perhaps Edmond Hamilton could figure it out. His heroes can do anything, according to his invariable formula, viz: I (it's always "I") am captured by the enemies of our world; I make an impossible escape and flee in a vacant space car belonging to my foes—(I don't know how to run it, but I'm quick at learning). The enemy sends a heliotrope-colored destruction ray stabbing at me, but I stab right back and destroy 'em right and left, rescue my pals, hold off *all* my foes until their doom overtakes them, and don't even work up a sweat! Meanwhile, of course, old Doctor Soandso has sacrificed his life for the sake of humanity, and so on, *ad finem horribilem.* Can't you make Hamilton stop writing epics?

After such tosh a cool, well-balanced story such as Capt. Meek always has to offer is a distinct relief, and his "Osmotic Theorem" is no exception. Capt. Meek is without doubt your most original and finished author up to date, and I don't except Dr. Keller, with his over-ingenious style of writing. It is too bad that we don't have A. Hyatt Verrill any more. He is the king-pin of them all.

Here's hoping the "Stone from the Moon" hits me as hard as the "Shot into Infinity" did.

Bert Rosefield,
239 Sixth Avenue,
North Troy, N. Y.

(This is very acute criticism, and we are certain that some of our readers will wish to answer Mr. Rosefield, especially in regard to what he says of Edmond Hamilton, one of our most popular authors. The QUARTERLY has met with a great success in its two past issues, and we are certain our readers will like this latest issue as well as they liked the others. Captain Meek is one of our most original writers. His experiences in all parts of the world have given him an insight into men, and a grasp of human motives which mix well with his scientific knowledge and imagination.

As to the meteoric obstruction to interplanetary travel: We have commented on this several times. It is quite possible, however, to avoid the belt of the meteors, which is only a few miles wide, if fortune favors the flyer with a break in the stream. In "Liners of Space" there is a solution to this problem, and also in "Through the Meteors," both of which appeared in AMAZING WONDER STORIES.—*Editor.*)

## Future Women Writers

*Editor, Science Wonder Quarterly:*

I have just finished reading the SCIENCE WONDER QUARTERLY of Winter 1930. "The Moon Conquerors" was typically well-written, reflecting much credit on the author, Mr. Romans.

"Into the 28th Century" by Lilith Lorraine appealed to me because of its originality. However, everything considered, it seems obvious that Miss Lorraine's knowledge of pure science is considerably limited. Nevertheless, I admire, in a way, her treatment of her theme. She exemplifies a new school of women writers, who will exist in the near future. Those at present, hide-bound by convention or modesty, who hesitate to write freely of sex, will, in my estimation, be non-prevalent in days to come. Modesty and convention—bah! If, as science and Rousseau say, Nature is right, why not do the right thing and discard artificialities and sophistry?

The only fault I can find with your magazine is that it is not issued often enough.

Edward Alpert,
1273 Dewey Ave.,
Price Hill, Cincinnati, Ohio.

(Most readers admired "The Moon Conquerors," and no wonder, for most of them thought it was a splendid piece of work. Miss Lorraine is quite an unusual young woman, and her writing reflects the advances that members of her sex have made in intellectual circles. We believe that if Mr. Alpert would consult some of the writings of the foremost women writers of the present time, he would find that they all write freely of sex—and, in the opinion of some conservative people, too freely. However, that is another question, and we are not concerned with it.—*Editor.*)

## "The Eye of the World"

*Editor, Science Wonder Quarterly:*

I want to say there is a mistake in "The Moon Conquerors" which can be found in any book on astronomy. In describing "The Eye of the World" Mr Romans says that the lens was made in sections. This is impossible, because it is impossible to make two pieces of glass of the same refracting power. True, the author says "A lens could be made in two or more sections and fused together." I wonder how he'd do it. Again, you claim you publish nothing which conflicts with our present-day scientific knowledge. I suppose you'll answer that such glass *could* be discovered, but is that plausible

(*Continued on Page 428*)

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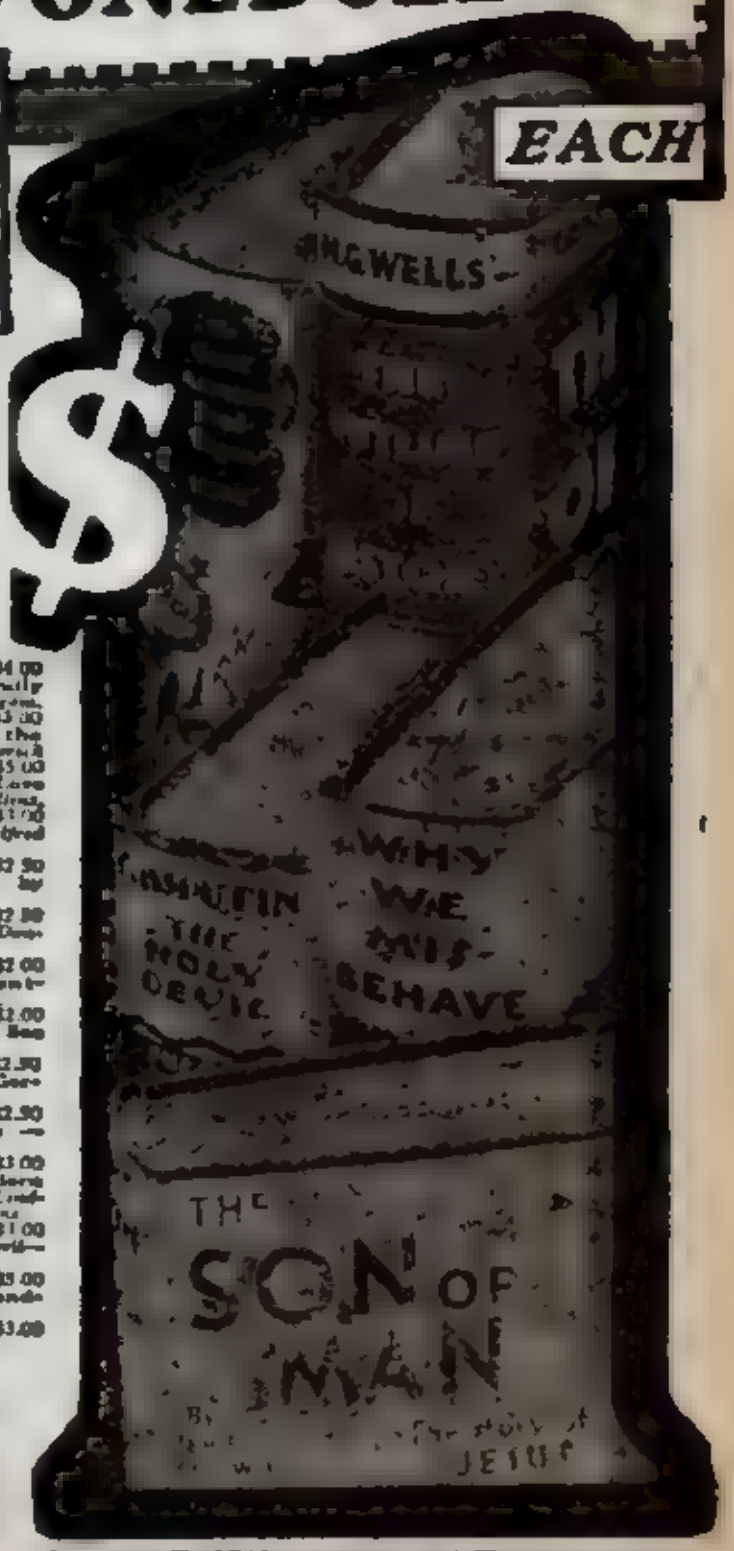


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## The Reader Speaks

(*Continued from Page 426*)

in the light of our *present-day* science?

Sure, anything *can be discovered*, says you. Well, for that matter, it *could* be discovered that the moon is made of fire, but we don't believe it.

However, the magazine itself is fine. Why don't you have covers like these for the monthlies?

Robert Baldwin,
1427 Judson Av.,
Evanston, Illinois.

(The author of "The Moon Conquerors" is a scientist of no mean repute, as we stated in the preface to the story. In our opinion he has shown how a great telescope could be constructed, and the description of the fitting together of the great lens seems quite plausible. Mr. Baldwin must have read the description of the making of the new 200-inch telescope mirror by General Electric Company scientists in the March issue of SCIENCE WONDER STORIES, in which a "sleet storm" of 3000 degrees is created for the fusing of the quartz. We find nothing in our astronomical volumes to contradict the methods used in the story. The point is that while our stories deal with the future of science, and in spite of the fact that we do base them on our present conceptions, we still believe the lens described by Mr. Romans is possible. Otherwise we would not have allowed it to remain.—*Editor.*)

### The Story of Man

*Editor, Science Wonder Quarterly:*

First of all I wish to extend my sincere thanks for the hours of enjoyment afforded me by the QUARTERLY. Ordinary life is so prosaic and dull and soul-destroying with its trivial absurdities that the pleasure of something expressing the spirit of change cannot be overestimated.

"The Shot Into Infinity" is flawless, and seems to me the most *possible* space-travel story I have yet read. When we come to "The Moon Conquerors," however, we enter a great field of possible comments and questions. Although the story held me spell-bound from start to finish, I feel I must make a few remarks. First, about the intense cold of space. Heat, as I understand it, is the motion of the molecules of the substance; the faster they move, the greater is the temperature of the substance. Now, space is a vacuum, and contains no molecules—therefore, how can it have a temperature? As far as I can perceive, in a metal space-vessel the temperature would rise, for the occupants would be continually producing heat, while the metal walls would not be able to conduct it away into the air, there being no air around it. Where am I wrong?

Mr. Romans puts forward a very interesting hypothesis about the origin of man, and it all fits in nicely—except that it cannot account for the "Java Apeman" (500,000 years old) or the Piltdown man (200,000 years old) or the newly discovered "Peking" man (supposed to be about 1,000,000 years old.)

I read in your letter columns that a science correspondence club already exists. How would it be possible for me to join?

Charles J. Parsons, Jr.,
c/o Miss Carmichael,
Duntroon, Ontario, Canada.

(We are glad Mr. Parsons has mentioned the points about space because it gives us an opportunity to explain them. He is quite right when he says that the

(*Continued on Page 429*)


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## The Reader Speaks

(*Continued from Page 428*)

motion of the molecules of a substance produces heat. We never said that outer space has a temperature. The editorial in the April issue of SCIENCE WONDER STORIES explains this point that space itself has no temperature. Naturally, there are no molecules in a vacuum, since there is no matter in it. Nevertheless, the metal space vessel itself going through space, would not grow warm from the heat of the occupants, for the exterior of the car would be radiating heat more quickly than it received it—at least the side turned away from the sun would.

Mr. Romans's account of the origin of man does not, of course, take into consideration the theories presented by anthropologists, but is given from the viewpoint of the Selenites. However, we feel that any doubt which will cause a more detailed study of evolution and the origin of man will be a benefit.

Mr. Parsons can find out more about the club by writing to Raymond A. Palmer, 1431 38th St., Milwaukee, Wis.—*Editor.*)

### Stories with a Thrill

*Editor, Science Wonder Quarterly:*

In your winter QUARTERLY I liked "The Moon Conquerors" best. "The Osmotic Theorem" was also well written, but not so well as the feature story. "Underground Waters" doesn't belong in the magazine, in my opinion, as it has small scientific value and the story was not exciting. I like stories with a thrill and plenty of action.

Francis D. Houghton,
22 Central Street,
Auburndale, Mass.

We always try to supply our readers with stories that combine scientific knowledge and advances with thrills and action. Our readers always want action, and we see to it that they get it.—*Editor.*)

### The Cause of Insomnia

*Editor, Science Wonder Quarterly:*

I wish to announce through your magazine that I have discovered the cause of insomnia! It is a marvelous magazine called SCIENCE WONDER QUARTERLY which doesn't allow one to sleep until he has completely read the entire book!

The stories in your latest issue were great. I think it would be quite a fine idea if you would publish the authors' autographs below their pictures.

I am looking forward to reading "The Stone from the Moon" as I enjoyed "The Shot Into Infinity" to the fullest extent.

Now I should like to ask a question. Why is the moon called *the* moon, and not just Moon, like Mars, Neptune, etc.

Forrest Ackerman,
San Francisco, California.

(While some magazines have been called a cure for insomnia, we have the distinction of being the cause of it, which, we feel, is a unique honor.

The moon is called *the* moon instead of Moon because moon is a common noun. There are several moons—Jupiter has nine, Mars two, and so forth. Whereas, there is only one Mars; one Jupiter, and one Uranus. We call the sun as we do because there are other suns—millions of them. When we use the terms "The moon" and "The sun" everyone knows to what we refer. Whereas, if we spoke of a "planet" instead of Mars or Jupiter, there might be some confusion. We hope this explanation is satisfactory.—*Editor.*)

(*Continued on Page 430*)


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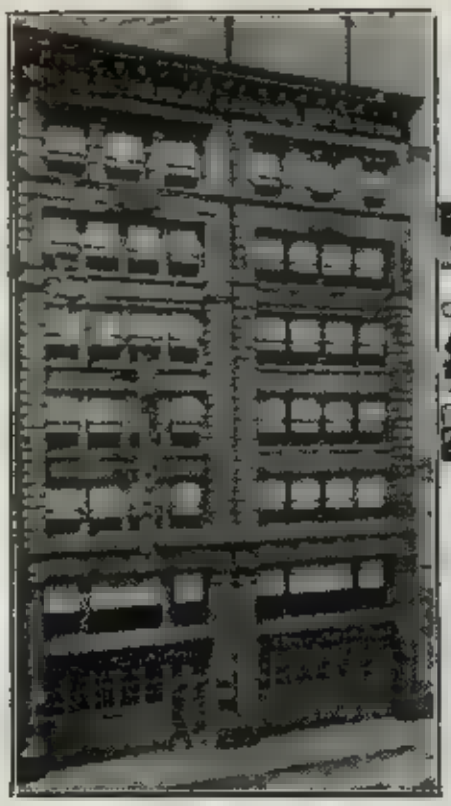

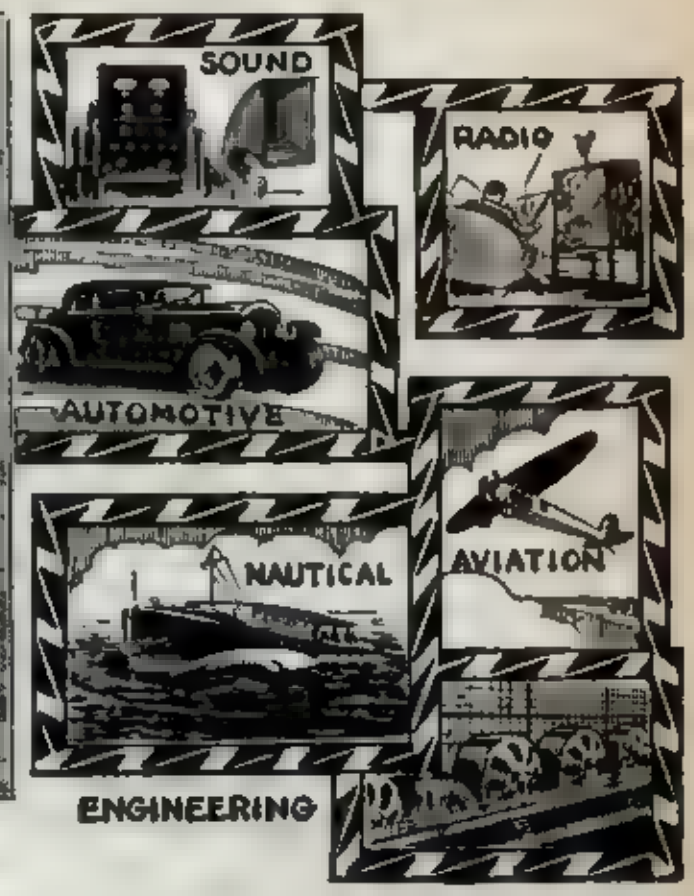


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## The Reader Speaks

(*Continued from Page 429*)

### Wants More of Romans

*Editor, Science Wonder Quarterly:*

"The Moon Conquerors" was about the best interplanetarian story I have ever read. I did not, I regret to say, get a chance to read "The Shot Into Infinity." Let us have more like the story by Romans. Perhaps you could persuade him to follow it up with a sequel. Another thing—I think you could have more than one interplanetarian story in each issue.

Robert Koons,
2219 Boas Street,
Penbrook, Pa.

(We have received many requests for a sequel to Mr. Romans's story, and we will probably be able to inform you of a sequel to it before long. In the opinion of most of our readers more than one interplanetarian story in each issue is not desirable, as this type of story is a treat, and to have too much of it would not be good for the reader—or for anyone else. —*Editor.*)

### More of Miss Lorraine

*Editor, Science Wonder Quarterly:*

One of your QUARTERLIES was left at my house, and I read it in my spare time. I was intrigued by its contents. I liked the feature story, but I thought the best story in the magazine was "Into the 28th Century" by Lilith Lorraine. If you print many of that kind, I will certainly become a regular reader, though I really think that all the stories are of a high class and show that you cater to a high grade of intelligence.

Mrs. Helen Weber,
7005 Emerald Avenue,
Chicago, Ill.

(Miss Lorraine has written an unusual story, and she has received a very gratifying response. We hope Mrs. Weber continues to be one of our readers, as we welcome the addition to our audience of all intelligent people.—*Editor.*)

### Wonderful!

*Editor, Science Wonder Quarterly:*

Your winter issue of the QUARTERLY was wonderful. (This is a very feeble expression, but it will have to do.) I like to have one long story and several short ones.

I liked "Into the 28th Century." Couldn't you persuade Lilith Lorraine to write a sequel describing Anthony's return to Nirvania and some further adventures?

Lorne Jesup,
335 Lipton Street,
Winnipeg, Manitoba, Canada.

(The expression "wonderful" is quite sufficient for us. It is appreciation like this which makes us do our best to make each issue better than the one before.

Miss Lorraine may write another story of Nirvania. We may have something to say about this at an early date.—*Editor.*)

### Does Miss Lorraine Rant?

*Editor, Science Wonder Quarterly:*

The story I enjoyed most in the winter issue of the QUARTERLY was "The Moon Conquerors." It had all the essentials of a great story. I don't see why a telescope like the one in the story could not be constructed—upon a smaller scale. "The Osmotic Theorem" was good too, but I can't say as much for the other stories. Miss Lorraine rants too much, but her story was passable. "Underground Waters" had nothing to it—just a smattering of science.

Robert B. Konikow,
497 Warren St.,
Roxbury, Mass.

(We believe that a telescope like the one described in the story is quite possible. In time we may have telescopes that size, for we are always probing deeper into the mysteries of the universe, and a telescope which adds thousands of light years to our present knowledge will be invaluable to science.

Miss Lorraine does not "rant" in our opinion. She writes with understanding of an ideal society, and we think she has been quite successful at it.—*Editor.*)

---

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912,
OF SCIENCE WONDER QUARTERLY, published 4 times a year at 404 North Wesley Avenue, Mount Morris, Ill., for October 1st, 1929.

State of New York)
County of New York)

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Irving S. Manheimer, who, having been duly sworn according to law, deposes and says that he is the Business Manager of the SCIENCE WONDER QUARTERLY, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, Stellar Publishing Corp., 404 North Wesley Avenue, Mount Morris, Ill.

Editor, Hugo Gernsback, 98 Park Place, New York City

Managing Editor, David Lasser, 98 Park Place, New York City.

Business Manager, Irving Manheimer, 98 Park Place, New York City.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

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3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.)

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4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

IRVING S. MANHEIMER,
Business Manager.

Sworn to and subscribed before me this 7th day of February, 1930.
(Seal) ROZELLA BENNETT,
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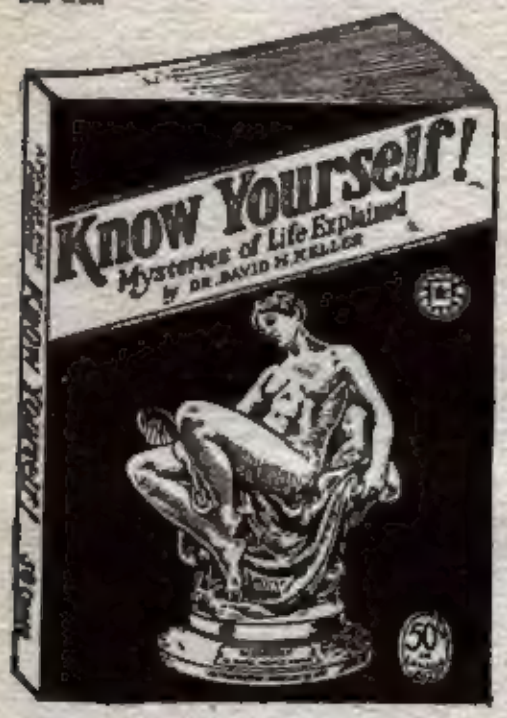


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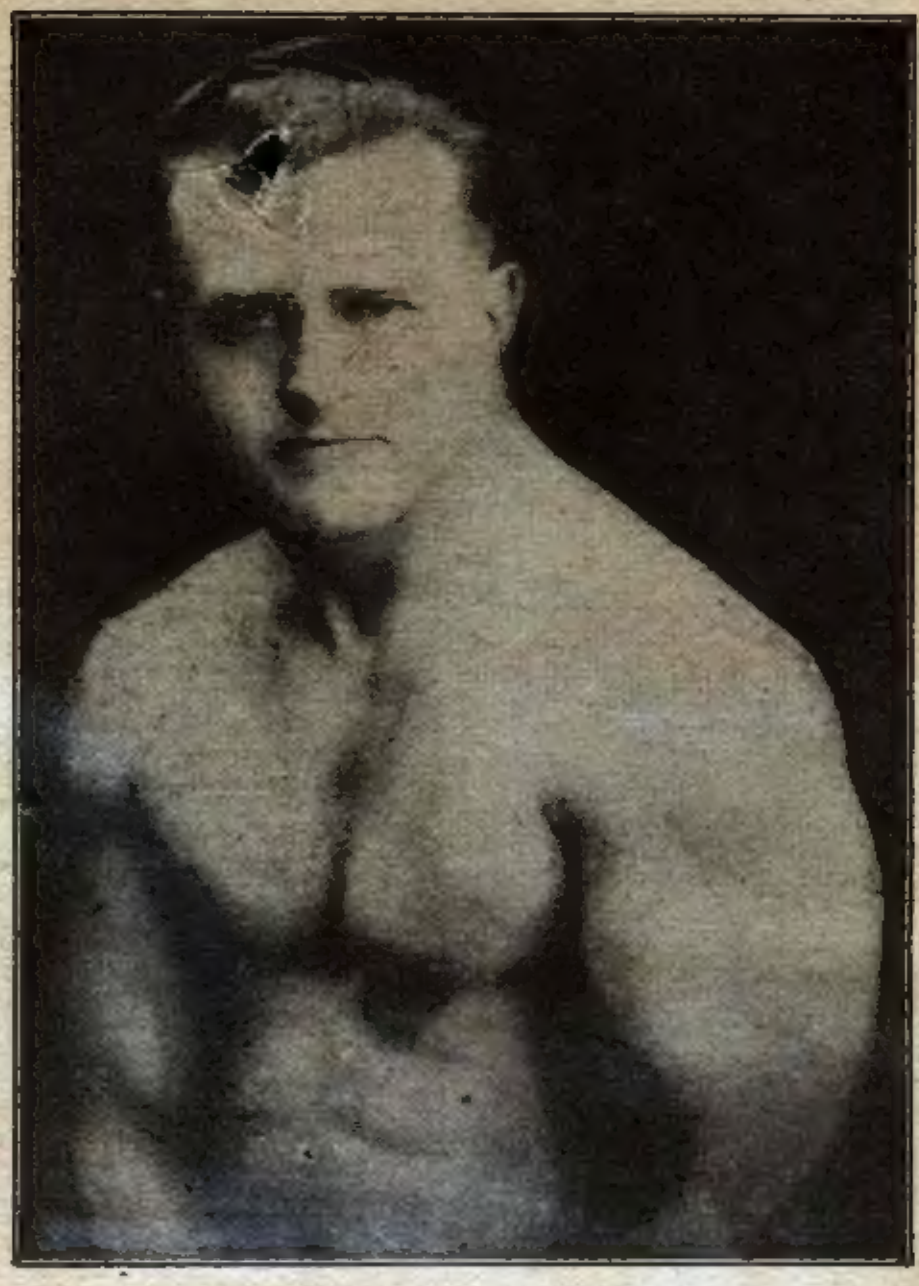

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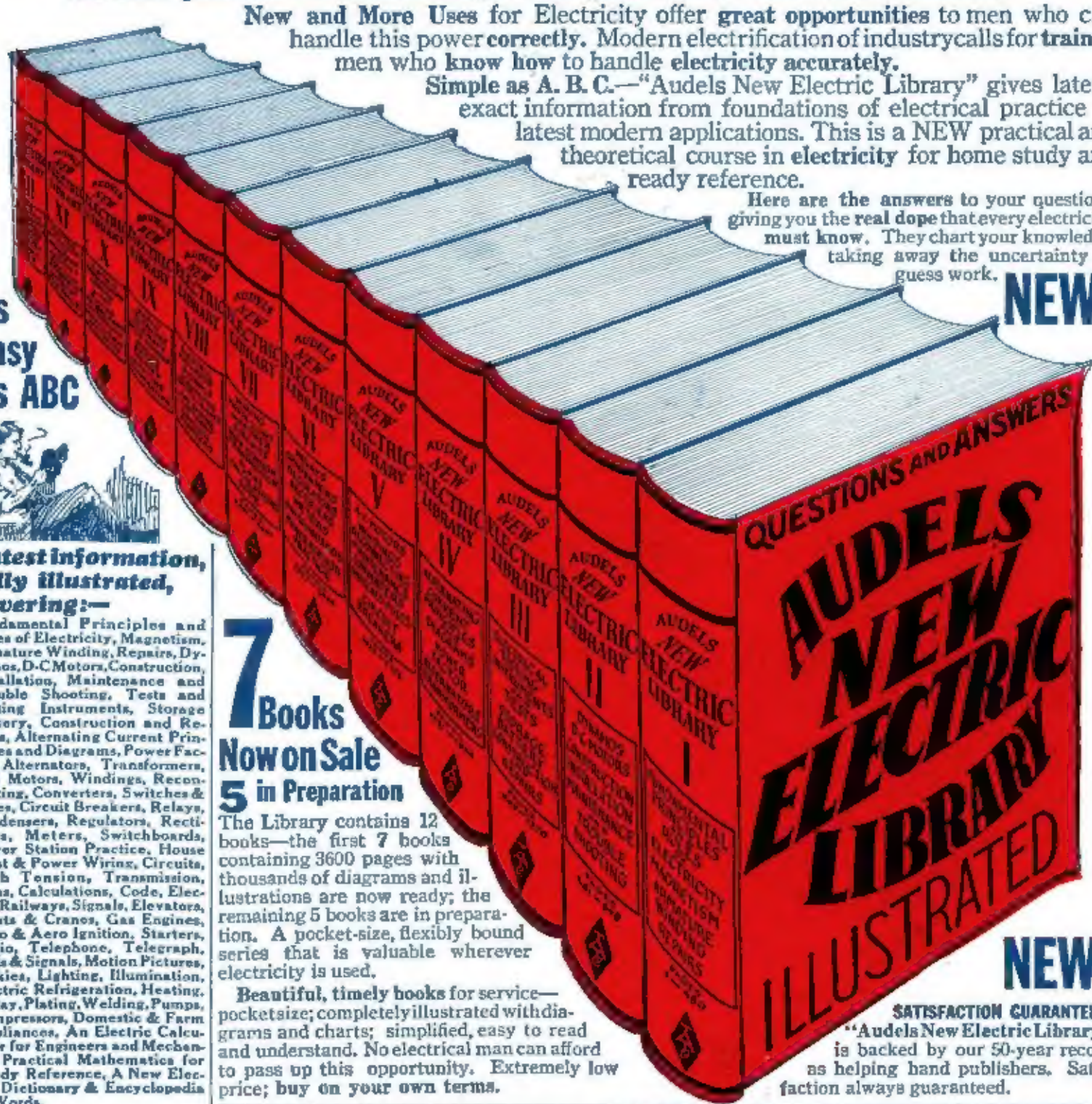


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# How to get a good job in the Radio Industry

**Hundreds of Jobs paying $50, $60, $75, $100 a week are opening in Radio every year.**

J. E. SMITH, *Pres*
NATIONAL RADIO INSTITUTE

## I showed these men how to get *Big Pay* jobs like *these*

### Seldom Under $100 a Week

"My earnings in Radio are many times bigger than I ever expected they would be when I enrolled. In November I made $577, December $645, January $465. My earnings seldom fall under $100 a week. I merely mention this to give you some idea of what a Radio man can do who has the training."

E. E. Winborne,
1414 W. 48th St., Norfolk, Va.

### $3000 a Year in Own Business

"I cannot give N. R. I. too much credit for what I have been able to do in Radio. I can safely say that I averaged $3000 a year for the past three years. I am in the Radio business here. Any man who really wants to advance cannot go wrong in Radio. There is certainly a lack of trained men."

Fred A. Nichols,
P. O. Box 207, Eaton, Colo.

If you are earning a penny less than $50 a week, send for my book of information on opportunities in Radio. It is free. Radio's amazing growth is making hundreds of fine jobs every year. My book shows you where these jobs are, what they pay, how I can train you at home in your spare time to be a Radio Expert.

### You have many Jobs to choose from

Broadcasting stations use engineers, operators, station managers and pay $1,800 to $5,000 a year. Manufacturers continually need testers, inspectors, foremen, engineers, service men, buyers for jobs paying up to $15,000 a year. Shipping companies use hundreds of operators, give them world-wide travel with practically no expense and $85 to $200 a month besides. Dealers and jobbers (there are over $5,000) are always on the lookout for good service men, salesmen, buyers, managers and pay $30 to $100 a week for good men. Talking Movies pay as much as $75 to $200 a week to men with Radio training. There are openings almost everywhere to have a spare time or full time Radio business of your own—to be your own boss. Radio offers many other opportunities. My book tells you about them. Be sure to get it at once.

### My New 8 Outfits of Parts give you extensive Practical Radio Experience

With me you not only get the theory of Radio—you also get practical Radio experience while learning. You can build over 100 circuits—build and experiment with the circuits used in Atwater-Kent, Majestic, Crosley, Eveready, Stewart-Warner, Philco, and many other sets. These experiments include A. C. and screen grid sets, push pull amplification and other late features. When you finish my course you won't need to take "any old job" just to get experience—you will be trained and experienced ready to take your place alongside men who have been in the field for years.

Back view of 5-tube A. C. screen grid tuned Radio frequency set—only one of many circuits you can build with the parts I give without extra charge.

### I Will Train You at Home in Your Spare Time

Hold your job until you are ready for another. No need to leave home. All I ask is part of your spare time. I have doubled and tripled the salaries of hundreds through my practical home-study training. You don't have to be a high school or college graduate. My course is written in easy, simple terms that most anyone can understand.

### My course includes Talking Movies, Wired Radio, Television

My course is up-to-date with Radio's latest uses and improvements. It includes Radio's application to Talking Movies, Television and home Television experiments, Wired Radio, Radio's use in Aviation, in addition to fitting you for many other lines. When you finish you won't be a "one job" man. You will be trained for many jobs.

### Money Back If Not Satisfied

I will agree in writing to refund every penny of your tuition if you are not satisfied with my Lesson Texts and Instruction Service when you have finished my course. This agreement is backed by the Pioneer and World's Largest organization devoted entirely to training men and young men for good jobs in the Radio industry, by correspondence.

### Find out what Radio offers you Get My Book

This book gives you the facts on Radio's opportunities and the many features and services of N.R.I. training. It gives you 100 letters from actual students who have proved that my methods are successful. Get your copy today. There is no obligation.

**J. E. SMITH, President,**
**National Radio Institute, Dept. 0077**
**Washington, D. C.**

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